Consumers' Research

BULLETIN

JANUARY • 1955

Portable Electric Saws 5

Men's White Dress Shirts 11

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The 1955 Pontiac 21

The New MG Sports Car 23

"All-Wave" Radio Receivers 29

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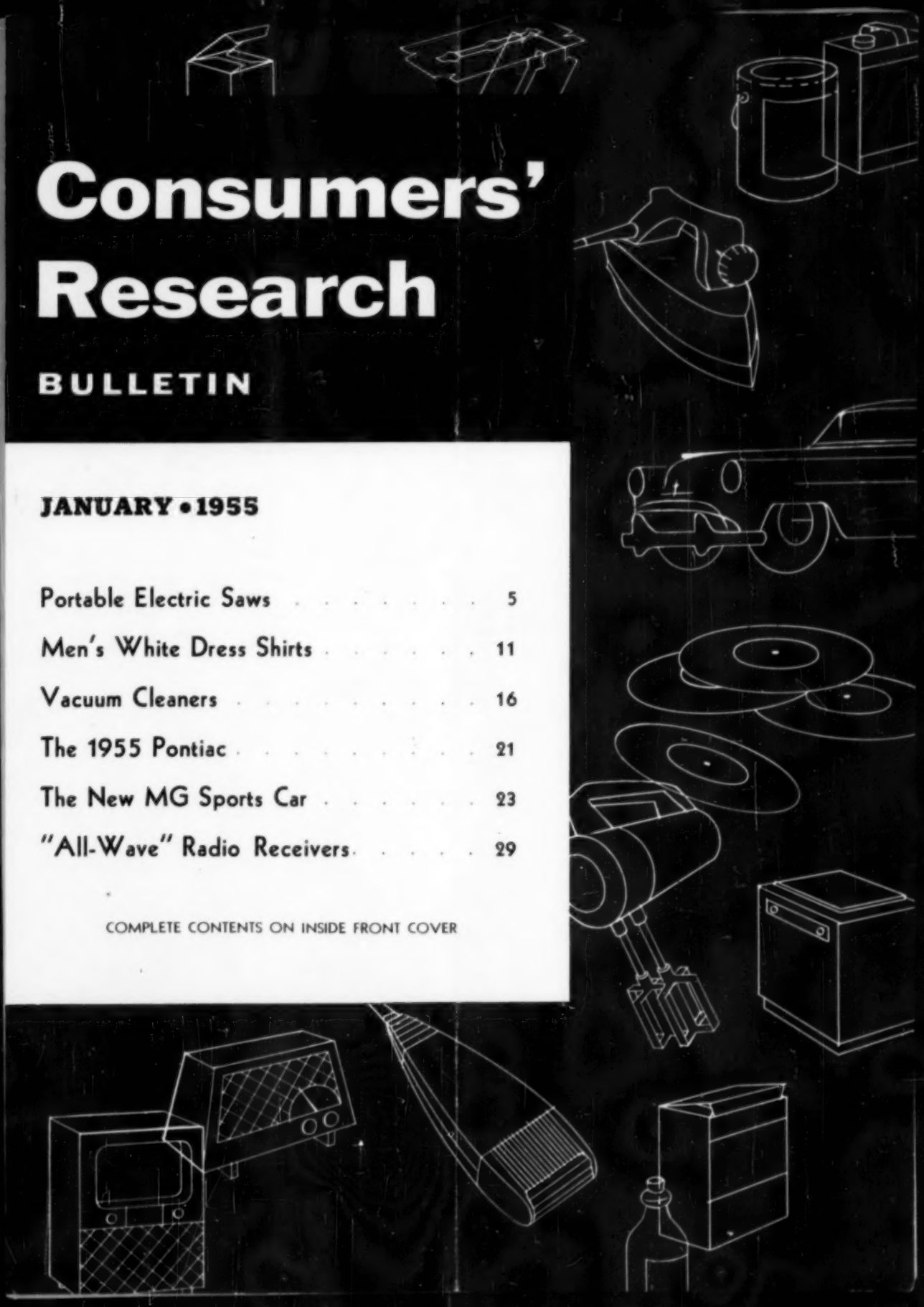

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Consumers' Research functions to provide unbiased information on goods bought by ultimate consumers. For their benefit (not for business or industry) and solely with the funds they provide, CR carries on tests and research on a wide variety of goods, materials, and appliances, and publishes the findings in CR BULLETIN. Consumers' Research is a non-profit institution, and is organized and operates as a scientific, technical, and educational organization.

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OFF THE EDITOR'S CHEST

MODERN electrical appliances represent a high development in the field of mechanical and electrical engineering. Yet there are many aspects in which they can be improved, particularly with respect to safety, in view of the reports seen from time to time in the newspapers of injuries and casualties suffered by users of appliances and fires set by equipment that may have had an inherent defect or have developed one in use.

Those who have regarded electrical appliances as offering no great hazard will change their viewpoint after they have read many such headlines as these: "Baby Girl Electrocuted" [a toaster accident in Sudbury, Ontario]; "Shock From Toaster Kills Kingston [Pennsylvania] Infant"; "Electricity Plus Puddle Kills Man" [man using sanding machine on a car, in Scotch Plains, N.J.]; "Hand Drill Shock Kills Doctor" [Geneva, N.Y., physician was boring holes in a farm blower casing while standing on wet ground]; "Tot Electrocuted" [young child in Philadelphia caught in a washing machine wringer and then killed by contact with a live lamp socket].

Consumers' Research gives considerable weight in testing and evaluating appliances to questions of electrical and mechanical safety. On a food mixer, for example, we consider the possibility of the control's being accidentally turned on when the machine is being handled or cleaned; the stability of the mixer in all positions with its attachments; the direction of rotation of the beaters, and the possibility of the fingers' being caught in them. Sometimes these considerations seem to the manufacturer and to the retailer to be of minor importance, but the unfortunate woman whose tongue was caught when she accidentally turned on a mixer while licking the beaters and who was terribly injured, as well as the parents of a young child who had a finger mangled when he stuck his hand into the revolving beaters are very much concerned with the problems of mechanical and electrical safety.

(*Continued on page 24*)

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It will be advantageous if you will, whenever possible, send prompt notice of change of address at least 5 weeks before it is to take effect, accompanying your notice with statement of your old address with name in full. At least a month's notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel. ¶*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.*

Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; **1, 2, 3**—relative prices, **1** being low, **3** high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price**; 54, 55—year in which test was made or information obtained or organized by the staff of Consumers' Research.

The Consumers' Observation Post

AN APPLIANCE THAT JUST DOESN'T WORK even when new is usually known as a "lemon." Sometimes it is possible to get an immediate adjustment; in other instances the dealer will endeavor to have it fixed, or, in extreme cases, refuse to make any adjustment whatever. Sears Roebuck is reported to be working on a new angle for small appliances whereby the customer who comes back with a defective device will be given a new one out of stock and the old one will be thrown away. That ought to be pretty popular with consumers. We shall be interested to know if the mail-order house is able to persuade manufacturers to cooperate.

* * *

FOOD BOUGHT ON A TYPICAL FREEZER-FOOD PLAN may cost the consumer somewhat more than if the food had been purchased at a local supermarket. The Milwaukee Better Business Bureau made a comparison of one particular plan to check on the advertising claim of some freezer-food salesmen that their customers could save as much as 30 percent in food costs and found that the same food bought at a supermarket would cost slightly less, rather than a good deal more. In two other price comparisons of supermarket prices with freezer-food plans, the Milwaukee B.B.B. found that the average food plans would save only about one percent on the actual food costs, and when the price of the freezer, operating costs, depreciation, etc., were considered, there would be no dollar saving whatever in buying on a "food plan."

* * *

MORE INFORMATIVE LABELS on furniture are needed to help the intelligent salesman and the customer who wants to buy with a knowledge of just what can be expected from the article in service. Particularly, consumers are reported as wanting to know about furniture finishes with respect to their resistance to liquor (alcohol), boiling water, hot plates, mars and scratches, moisture and temperature changes. It is not enough to talk about a beautiful hand-rubbed finish or the effect of antique handiwork on and around the hardware, comments the trade journal Home Furnishings. The manufacturer whose products meet the critical demands of consumers and who secures increased sales is the one who forthrightly sets down the resistance qualities of his product on the label in concise and accurate language.

* * *

THE NEW AUTOMATIC DEFROSTING refrigerators have great appeal to women who look upon the defrosting operation as a great chore. One subscriber, however, reports that his automatic defrosting box becomes coated with frost and ice so that the rubber gasket surrounding the inner door of the top section becomes stiff and frozen shut, preventing ready access to the ice cubes. This particular consumer has found that the new automatic defrosting refrigerator causes him much more trouble in some respects than the previous non-automatic type.

* * *

HOUSEHOLD CHEMICAL PRODUCTS of many types often contain hazardous chemicals that are dangerous to health if not properly used or if swallowed by young children. Amendments to the New York City and State sanitary codes were recently passed requiring that labels of such products carry proper warning of the hazards in particular cases and provide precautionary advice, with instructions for first-aid treatment. The importance of such information was pointed out by Dr. Morton J. Rodman of Rutgers College of Pharmacy in a study classifying chemicals as toxic or non-toxic in various household products such as polishes and waxes, paintbrush cleaners and paint removers, cleaning preparations, and cosmetics. He cited the example of a little girl who drank part of a bottle of lemon oil furniture polish and nearly lost her life because the parents did not know the polish was toxic, and when she was finally taken to a doctor he did not know what

antidote to use. Also helpful will be a dictionary to be compiled by Dr. Harold C. Hodge, professor of pharmacology and toxicology at the University of Rochester School of Medicine and Dentistry and research associate Marion Gleason. These two researchers have collected and analyzed data on about 15,000 products which will be listed with the hazardous ingredients (when one or more are present), the degree of damage to be expected from swallowing one of the products accidentally, and what to do about it.

* * *

PENICILLIN SHOTS FOR COLDS are frowned upon in certain medical circles in view of the demonstrated fact that penicillin is not an effective treatment for the common cold. Physicians are reported to be troubled by patients who call at the office with demands for a penicillin shot, and when they are turned down, announce that they will go where they will be given this particular treatment. Dr. C. A. Hartung of Chattanooga in the Journal of the Tennessee State Medical Association further notes in his discussion of this problem that some patients show a marked sensitivity reaction to penicillin, so severe in certain cases as to require hospitalization for days or weeks.

* * *

THE EFFECT OF TELEVISION ON FAMILY LIFE, particularly on children of pre-school age, is the subject of an article in the December issue of The American Mercury. The author, Ruth A. Inglis, points out that children of that age often spend as much as five or six hours before the television screen; at the grammar school age, they sometimes devote more time to television than to school. Older children do their homework with the television set turned on. Just what the social effects will be is a matter that calls for impartial and competent research. Crime, violence, and sex are now being brought into children's life at a tender age, and some parents are no doubt unaware of the extent to which their offspring are taking an interest in such matters. On the positive side, the author lists some half dozen programs for children that are to be commended.

* * *

DEHYDRATED VEGETABLE SOUP MIXES are now being urged on restaurants which seek to save labor by making use of ready-prepared foods. One brand particularly is noted by Food Engineering to be so low in cost that a restaurant may serve soup prepared from that dehydrated mix for 2 cents to 3 cents per portion. Those who can take soup or leave it alone will not care greatly about this trend, but those who appreciate a well-made chicken or beef soup made by properly cooking the basic fresh ingredients will lament this further step toward deterioration of food quality, for restaurant soups are already suffering from low quality, and short-cut methods of cookery.

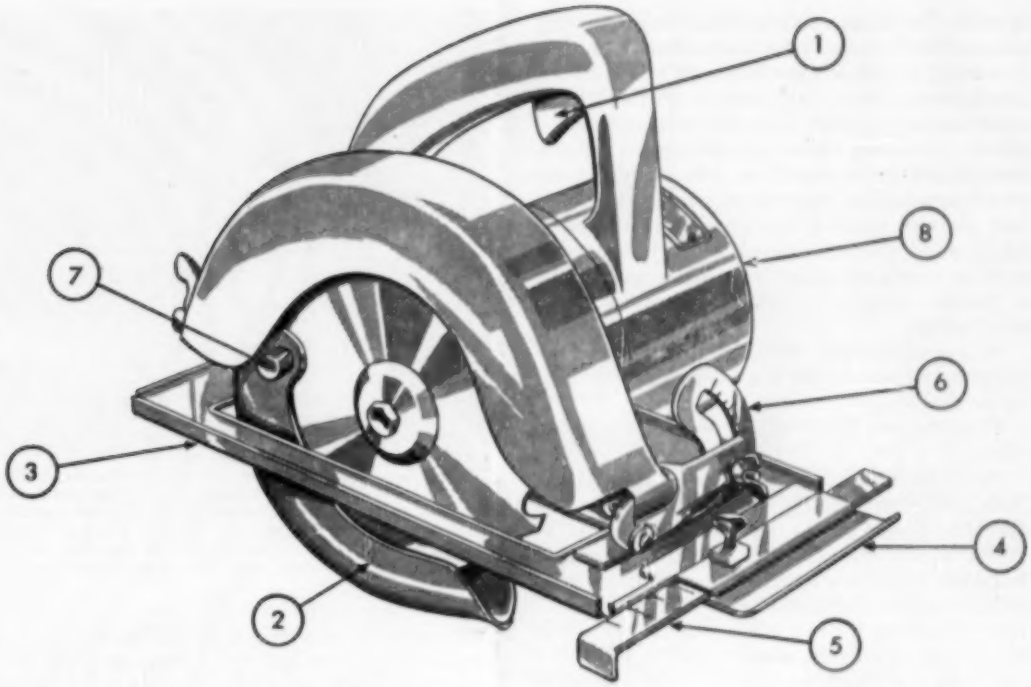
* * *

THE NEW TUFTED CARPETS are achieving widespread publicity. Possibly the lower prices of the tufted product may be an important factor. The modern carpet tufting machines produce about 17 times as much carpet per day as a conventional loom, hence the finished product can be priced lower. Rayon is being widely used because it can be dyed in bright, clean colors. In order to provide some quality control, the American Viscose Corporation has launched a move to provide standards for fiber content, pile weight, pile density, backing materials, and colorfastness to light and washing that will be licensed to the trade under the so-called Tufton Plan. Carpets meeting the prescribed standards may carry the Tufton label and at the present time some 19 different companies are cooperating.

* * *

ALTHOUGH BORIC ACID as an ingredient of baby powder has been given a clean bill of health by the Food and Drug Administration, a case of fatal poisoning was reported in a medical journal as recently as last summer, by Dr. W. T. Maxson of Bowling Green, Ky. The fatality was that of a 17-day-old infant who had been powdered profusely with boric acid powder for two days and further was treated by his mother with boric acid solution for chafing. He turned deep crimson from feet to scalp and was brought to the

(The continuation of this section is on page 33)



(1) Switch *(3) Base plate* *(5) Rip gauge* *(7) Guard handle*
(2) Guard *(4) Guide plate* *(6) Bevel angle adjustment* *(8) Motor*

Portable Electric Saws

IF YOU ARE one of the millions who form a part of the current "Do-It-Yourself" movement that is sweeping the country, the purchase of a portable saw may very possibly be at the top of your list. Such a saw in careful and skillful hands will save a tremendous amount of time in carpentry operations, rendering unnecessary a great part of the slow and laborious hand sawing normally needed where a job is of substantial size. In the hands of any careless person or one unaccustomed to working with power-driven tools, a portable saw can be exceedingly dangerous; it should therefore be purchased only after due consideration of the hazards, and of the possibility that the saw may at some time get into the hands of a child or other person who could suffer great injury from it. The tool's portability is a great asset, permitting sawing of material that cannot be handled easily on a table saw; i.e., large pieces of wood, such as plywood panels, crosscut sawing of long planks, cutting openings in floors and walls, etc., but this very portability introduces a number of elements of danger in use.

Portable saws do not cut as accurately as table saws, but, with the use of homemade guides, sufficient accuracy can be obtained for most ordinary purposes. Unless portability is important, it might be well to consider the purchase of a table saw, which is considerably less hazardous. It should be noted that some manufacturers offer, at extra cost, accessory tables that may be used to convert their portable saws into table saws.

All of the saws examined by CR were equipped with a spring-loaded guard for the blade, which under normal use was held in a position to cover the exposed part of the blade at all times. On some types of work, the guard must be held back to expose the revolving blade; when the saw is used in this manner, extreme caution is necessary. On a number of the saws tested, the spring arrangement which returns the safety guard to the "safe" position was not well de-

signed. On these, a cylindrical helical spring (shaped like a thread on a screw) was hooked to the casing at one end and through a hole in the guard at the other. On others, a full-enclosed spiral spring (shaped like the hairspring of a watch) was used, which was considered a much more desirable arrangement. It is important, before using any power saw, always to check that the saw guard is operating properly, bearing in mind that the spring which is depended upon to return the guard to position may break or become detached. Other precautions to be observed are:

Always disconnect the cord plug before attempting to remove the saw blade for resharpening or changing.

Keep the saw blade sharp; do not use a dull blade.

Most manufacturers recommend that, if the blade should stall under heavy cutting, the saw should be pulled back from the cut until it turns freely, before releasing the switch. This prolongs the life of the switch by preventing excessive arcing that burns the switch contacts. However, in pulling the saw back after it stalls with the switch on, there is some danger of kick-back when the saw starts up, and in CR's opinion, it is better to release the switch before freeing the saw than to take the risk of being hurt, even though this may damage the switch or greatly shorten its life.

Blow out the sawdust from the machine after each period of use.

When sawing, always have the wide part of the saw base ride on the solid (supported) part of the work.

Never use the saw unless the third wire is positively and securely connected to a good ground, such as the grounded wire, conduit, or BX casing of the electrical distribution system of the home or shop. (A cold-water pipe, or a pipe that forms part of a hot-water or steam heating system, if one happens to be accessible, normally provides a reliable ground; see also "Electrical hazards," pages 6 and 7.)

Follow the manufacturer's instructions regarding lubrication.

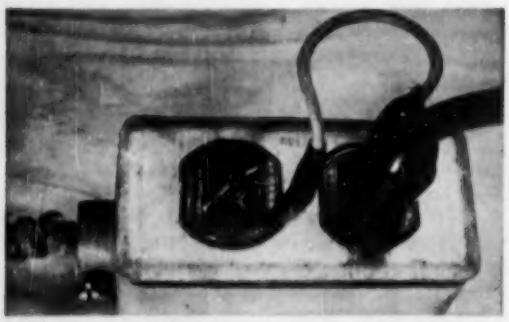


***Figure 1**—Typical "pigtail" as used to provide a ground connection for an electrical tool such as a portable saw or drill. Unfortunately in this instance, the ground connection is ineffective and grounding of the tool to the box would leave the user unprotected, because the metal covering of the BX cable as shown at the left has become detached from the box so as to break connection to the ground circuit.*

A B

***Figure 2**, A and B—Shows how a ground connection "pigtail," instead of being a guarantee of safety, can introduce an element of extreme hazard. In the above pictures two ground connections of different types are shown inserted under the connecting plug in such a way that in each case the grounding tip or lug is in contact with the "hot side" of the line. If this actually occurred, and it can occur through the carelessness or ignorance on the part of an uninstructed user, the whole shell of the appliance would be at 120 volts potential —the most dangerous condition possible. Thus it is seen that the grounding device, unless properly connected, can be an added source of danger, rather than a guarantee of safety.*

What size saw should you buy?

In buying a saw, it is important first to decide what you will use it for, and how much you will use it. There are general-purpose saws, heavy-duty saws, and extra-heavy-duty saws in various sizes with blades ranging in size from 4½ inches to 12 inches in diameter.

The 4½-inch-diameter blade will not cut material over about 1¼ inches thick, while a 12-inch-blade saw will cut up to 4¼ inches. For the home craftsman who uses a saw for occasional light cutting, such as in workshop projects and home remodeling, a general-purpose saw with a 6-inch-diameter blade which cuts to a maximum of about 2 inches deep will usually serve well.

Electrical hazards

Portable tools such as saws are almost certain to be used under conditions where, should the insulation of the wiring, brushes, etc., of the tool break down, the user's body will form part of a circuit to ground, and unless the tool is

Two laboratory workers measuring the temperature rise of the circular saws during an hour's run. A maximum temperature rise of 45°F above the temperature of the room is permitted during that period of time.

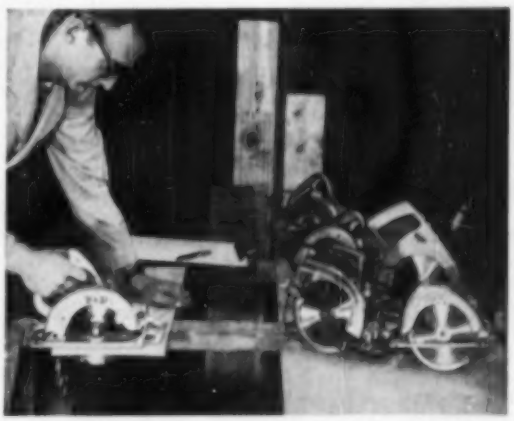
properly grounded, the user stands a very great chance of being killed by electric shock. It is essential, therefore, that the tool be equipped with a three-wire cord; two of the wires are for carrying the current, and the third, brought out at the plug end, is a ground wire, one end of which is connected to the casing of the saw and the other to a receptacle box (see Figure 1), so that, in the case of failure of the insulation between the motor or its wiring and the frame or case, the current is carried to ground. It is also very important to check that the receptacle box *is actually grounded*, for in some instances the metallic covering of the cables in the circuit may have pulled away from the box, so as to break the connection to ground, or the electrician doing the installation may have erred by not completing the circuit connection to ground at some point. (This is a fairly common occurrence, and it must never be *assumed* that a good ground connection exists on any given receptacle box—see Figure 1.) If non-metallic cable was used, the electrician may have failed to make the ground connection that should be provided. Even the third wire is not an absolute guarantee of safety. As shown in Figure 2, the possibility exists that the ground wire connection in the power cord may not only fail to be connected but can by accident easily become caught between the plug and the box and contact the live or "hot" prong, thus making the case of the saw highly dangerous electrically.

If an extension cord is used, this *must* also be of the three-conductor type, and the two lengths of ground wire must be properly connected and grounded, *before* the saw is plugged in. Because portable circular saws are especially dangerous from a shock hazard standpoint, if not properly grounded (this is true to about the same extent with other portable power tools, power drills, for example), saws not furnished with a three-conductor cable have not been given an *A-Recommended* rating regardless of their other features or performance.

CR's tests

The saws were tested for their compliance with Federal Specification GGG-S-51 for portable saws of two-inch capacity in the following respects. Stalling: it is required that no damage or smoke shall occur when the motor is stalled for a period of five seconds at rated voltage; temperature rise, which should not exceed 45°F, on the outside of the motor housing under constant operation (see Figure 3); horsepower delivered at the spindle shaft as determined on a dynamometer (the horsepower should not be less than 0.5); revolutions per minute at no load (not less than 3400); proof-voltage tests, in which the insulation of the motors is required to withstand 900 volts a.c., 60 cycles, for a period of not less than one minute. The saws were also given leakage current tests to determine that there was no hazard from current leaking through the insulation at normal voltages. There was a test for radio and television interference. Finally, there were use tests in which different kinds and thicknesses of lumber were sawed; at the same time, the minimum and maximum depth of cut of each saw was measured.

At the conclusion of these tests, the saws were disassembled and given a critical examination



All the saws tested were used to cut hardwood and softwood boards during the practical use tests.

	Black & Decker Cat. No. U-62	Blue Diamond Model 537	Craftsman Cat. No. 98—82553	Cummins Maxaw Model 717	Mall Model 88
Price	$64.50	$19.88	$53.95 (plus postage)	$49.95	$61.95
Diameter of blade, in.	6⅛	5⅜	6½	6⅛	6
Speed in rpm., no load, rated	5500	—	4300	5500	5000
Speed in rpm., no load, actual	5100	4500	4300	5400	5800
Amperes, rated	9.0	5.0	7.0	7.0	8.4
Horsepower at max. efficiency	0.95	0.35	1.0	0.60	0.90
Gears	steel	steel	bronze and steel	steel	steel
Bearings	1 self-oiling bronze, 2 sealed ball	self-oiling bronze	1 sealed ball, 1 unsealed ball	self-oiling bronze	sealed ball and roller
Three-wire cord	yes	no	yes	yes	yes
Length of cord	9 ft. 8 in.	7 ft. 3 in.	10 ft. 1 in.	11 ft. 7 in.	15 ft. 2 in.
Depth of cut at 90°	0 to 1-15/16	0 to 1¾	0 to 2⅛	⅛ to 2⅛	1-15/16
Depth of cut at 45°	⅛ to 1-9/16	⅛ to 1¼	⅜ to 1-11/16	½ to 1-13/16	
Weight	11 lb. 9 oz.	6 lb. 6 oz.	13 lb. 8 oz.	12 lb. 2 oz.	10 lb. 7 oz.
Rating	A	C	B	A	B

A dash (—) indicates no information available.

for workmanship, construction, materials, probable durability, etc. All of the saws were found to cause considerable radio interference. With television, however, interference was slight, except with the *Black & Decker* and the *Cummins*, with which it was considerable; the *Millers Falls* caused moderate interference on some channels. The saws (except *Craftsman*—see listings) were so constructed that removal of old grease and regreasing called for partial disassembly, which would require about 10 to 15 minutes. All of the saws except *Cummins Maxaw*, *Skil*, and *Black & Decker* carried labels showing listing (a form of limited approval) by the Underwriters' Laboratories. All of the saws were warranted against defects in workmanship or materials provided repairs had not been made or attempted by others. The warranties were valid for 90 days on *Blue Diamond* and *Mall*, one year on *Craftsman*, *Cummins Maxaw*, and *Powr-Kraft*. On the other saws tested, no time limit was given for the guarantee.

A. Recommended

Cummins Maxaw, Model 717 (John Oster Mfg. Co., 5055 N. Lydell Ave., Milwaukee 17) $49.95.

A satisfactory tool of adequate power, but temperature rise was higher than that permitted by Federal Specifications. This, however, when not too high, is not considered important for the type of intermittent use given such tools by the average home craftsman.

Met Federal Specifications listed in text for 2-in.-capacity saws except for temperature rise. Bevel quadrant marked from 0 to 45° in 5° intervals. Safety guard retracted by unprotected spring (see text), and had a small knob for operating safety guard manually. Rip fence graduated from 0 to 6 in. and from 1½ in. to 8 in. Front edge of base plate graduated from 0 to 4½ in. by ⅛ in. The saw was designed with a flat surface at the end of the motor housing so that the saw when not in use could be set down without its weight being supported by the safety guard. Performance in use test, satisfactory. Noisy in operation. Current is carried to brush holders by a coil spring soldered to lead wire (undesirable from a safety standpoint). Instructions did not state how frequently repacking with grease was required. **2**

Black & Decker, Cat. No. U-62 (The Black & Decker Mfg. Co., Towson 4, Md.) $64.50; rip fence, $2.10 extra.

Judged a sturdy well-made tool of ample power.

Met Federal Specifications listed in text for 2-in.-capacity portable saws. Bevel angle adjustment easily made. Quadrant marked from 0 to 45° in 15° intervals. Well-designed safety guard with fully-

Millers Falls	Porter-Cable Homemaster Model 125	Powr-Kraft Cat. No. 94—8027M	Skil Special Model 518	Stanley Handyman Model H85-A	
$45.90	$49.50	$34.95 (plus postage)	$43.95	$67.50	*Price*
6	6	6¼	5⅞	6¼	*Diameter of blade, in.*
3200	5100	—	5800	—	*Speed in rpm., no load, rated*
3100	4800	—	6300	—	*Speed in rpm., no load, actual*
4.0	9.0	7.0	8.0	8.5	*Amperes, rated*
0.30	0.70	—	0.75	—	*Horsepower at max. efficiency*
steel	steel		steel		*Gears*
self-oiling bronze, single ball thrust	self-oiling bronze, sealed ball		self-oiling bronze, open ball		*Bearings*
yes	yes	yes	yes	yes	*Three-wire cord*
7 ft.	9 ft. 7 in.		7 ft. 5 in.		*Length of cord*
0 to 1-13/16	¾ to 1-15/16	Failed Proof Voltage	¾ to 1⅞	Failed Proof Voltage	*Depth of cut at 90°*
0 to 1¼	½ to 1-7/16		¾ to 1½		*Depth of cut at 45°*
9 lb.	8 lb. 11 oz.	11 lb. 12 oz.	10 lb.	11 lb. 12 oz.	*Weight*
B	B	C	B	C	*Rating*

enclosed spring return and large lever for manual operation, both desirable. Performance in use test, satisfactory. About average in noise of operation. Instructions called for grease being replaced every 60 days to 6 months, depending on use. 3

B. Intermediate

Craftsman (Sears-Roebuck's Cat. No. 99—02553) $53.95, plus postage (on sale in some retail stores at $49.88).

A saw of adequate power, however, the Craftsman's relatively large size and weight may make it less desirable to some users than more compact, lighter saws. Temperature rise too great.

Met Federal Specifications listed for 2-in.-capacity saws except for temperature rise. Bevel quadrant marked from 0 to 45° in 1° intervals. Safety guard had desirable fully-enclosed spring return but lacked retracting lever or knob. Rip fence marked from 0 to 6 in. by ⅛ in. Saw had two handles, necessitated by its large size and weight. Performance in use test, satisfactory, but as the saw required use of both hands, it was not as convenient to operate in cutting material which required holding. Use of die castings at certain connecting parts might be questioned from the standpoint of the saw's standing up in hard use. When the saw is set for maximum cutting depth at 45°, the setscrew and washer holding the saw blade extends below the surface of the base plate, creating a hazard if used at this setting. Very noisy in operation. Current is carried to brush holders by a spring soldered to a lead wire (undesirable from a safety standpoint). Grease is to be added every 150 to 200 hr. through capped opening on housing. This method is very convenient but does not do as good a job as when the saw is partially disassembled and the old grease removed and replaced, as instructions for most of the saws require. 2

Millers Falls (Millers Falls Co., Greenfield, Mass.) $29.95 for power unit No. 0888; $15.95 for No. 8811 portable saw; total price, $45.90.

Considerably less powerful than most of the usual power saws but probably satisfactory for light work of the sort done by the average home craftsman.

This unit is not a saw of standard type but is part of the "Power Workshop" that is sold complete with power unit and 8 attachments (disk sander, orbital sander, bench stand, portable jig saw, bench grinder, bench jig saw table, bench circular saw, and the portable circular saw for $131.55). Failed to meet Federal Specifications listed for temperature rise, which was too high, and horsepower and no-load rpm., which were too low. Safety guard retracted by an unprotected spring hooked on to casing and guard through small holes (not considered a good design—see text). Had a small knob for the hand for manually operating safety guard when required. Bevel angle quadrant marked by lines only at 0, 15,

30, and 45 degrees. Ripping fence had no distance scale. Switch, single pole with lock, located on power unit instead of on handle of saw unit. This arrangement required that both hands be used in operating the saw, unless the switch was locked in the "On" position—and that is definitely undesirable from a safety standpoint. This design, as to the switch, seems inherent in the use of the power unit for driving several tools, and represents a deficiency in the safety factor which is perhaps the price one pays for the extra versatility of the combination unit. Drive gear on the end of the shaft was small and not as well adapted for hard service as those on the better single-purpose portable saws. Although the saw was underpowered, it performed well in use test. Fairly quiet in operation. Current is carried to brush holders by a spring soldered to a lead wire (undesirable from a safety standpoint). Requires repacking with grease every 400 hr. of use and oiling of bearing at commutator end of shaft. **2**

Porter-Cable Homemaster, Model 125 (Porter-Cable Machinery Co., 1714 N. Salina St., Syracuse 8) $49.50.

Temperature rise under load was much too high (melted grease leaked from gear box).

Failed to meet Federal Specifications listed for temperature rise. Safety guard, adequate; had fully-enclosed spring return and small knob for manual operation. Bevel quadrant marked from 0 to 45° by 15° intervals. Rip fence not supplied but available as an extra. Performed well in use test. Fairly quiet in operation. This was the only saw tested which was equipped with a special spring type of friction washer permitting saw blade to slip on arbor if jammed, greatly lessening hazard to operator should the saw kick back. Required repacking with grease every 6 months, and oiling of bearing at commutator end. **2**

Skil Special, Model 516 (Skil Corp., 5033 Elston Ave., Chicago 30) $43.95.

A saw of adequate power, well made and designed, except as reported in one respect in the listing below.

Met Federal Specifications listed for 2-in.-capacity saws except for slight smoking in stall test. Bevel quadrant marked from 0 to 45° in 15° intervals. The safety guard had fully-enclosed spring return but lacked the retracting lever or knob, which lack is a disadvantage from the safety standpoint. Rip fence available at extra cost. The saw spindle had a diamond-shaped arbor to fit a hole of the same shape in the saw blade, not as desirable as a round hole (see comment on *Mall Model 60*). Coil spring device carrying current to one of the brush holders was poorly made (failed during tests); on that account, use tests of this saw were not made. To be repacked with grease every few months, depending on the amount of use. Bearing at commutator end requires oiling once or twice a month. **2**

Mall, Model 60 (Mall Tool Co., 7740 S. Chicago Ave., Chicago 19) $54.95 plus $7 for base plate; total cost $61.95. Without base plate, saw can only be used for cutting at right angles, and there is no adjustment for depth of cut.

Except for the spring return of the guard, which was judged not as satisfactory as those having a fully-enclosed spring return, and except for square hole in saw blade (see below), was judged a good saw with ample power.

Met Federal Specifications listed for 2-in.-capacity saws except for a little smoking in stall test. Safety guard was retracted by an unprotected spring, not considered a very durable or sufficiently sure method (see text). The saw spindle had a square arbor to fit a square hole in the saw blade; this, while giving positive drive, is considered not as desirable from a safety standpoint as a round arbor and hole with friction washers which would permit the saw to slip and help prevent its kicking back if it should jam. About average in noise of operation. Performance in use test, satisfactory. Grease is to be changed every 6 months, less often for infrequently-used saws. **3**

C. Not Recommended

Blue Diamond, Model 537 (Pioneer Gen-E-Motor Corp., 5841-49 Dickens Ave., Chicago 39) $19.88 at Penn-Jersey auto stores; regular price claimed to be $29.95.

A light-weight, very low priced saw of relatively low horsepower. Not considered likely to be very durable. Might have been considered satisfactory for occasional light work by the home craftsman, if the manufacturer had provided properly for grounding of the saw frame.

Failed to meet Federal Specifications listed for horsepower for 2-in.-capacity saws (which is smallest saw for which such specifications are available). Its maximum capacity was 1¾ in. Temperature rise was too high. Had only a 2-wire cable, and no third (ground) wire, very undesirable from the safety standpoint. Bevel quadrant marked from 0 to 45° in 15° intervals. Safety guard retracted by unprotected spring hooked on to guard and casing, undesirable (see text). Driving gear on end of the motor shaft is very small and heavily loaded; it showed appreciable wear after very limited use. Otherwise performed satisfactorily, in use test. About average in noise of operation. Grease required replacing every 6 months, which could be done by removing small plate held in place by screws. Bearing at commutator end of shaft required periodic oiling. **1**

Powr-Kraft (Montgomery Ward's Cat. No. 84—8927M) $34.95, plus postage.

Failed to pass proof-voltage (electrical breakdown) test, indicating deficient electrical safety. **1**

Stanley Handyman, Model H65-A (Stanley Electric Tools, New Britain, Conn.) $67.50.

Failed to pass proof-voltage (electrical breakdown) test, indicating deficient electrical safety. **3**

Men's White Dress Shirts

MOST MEN'S SHIRTS are bought by women, it is said. Often the selection is likely to be a white dress shirt, since almost every man can find good use for a number of them. White shirts make an attractive gift, too, for almost all of them have a good appearance when they are new. It is not at all uncommon for the shirts to be individually wrapped in cellophane, carefully pressed, folded, and pinned so that only the collar and the front of the shirt show. Such packaging, of course, prevents the consumer from getting much of an idea about important details of the shirt he (or she) is buying. Fortunately, however, dress shirts are among the best standardized of all clothing so far as style and size are concerned, and the collar, which is of major importance to the man who wears the shirt, can be clearly seen in the package.

What do you have to pay for a *good* white cotton dress shirt? CR bought 15 shirts, most of them in the $3 to $4 range, but two in the $5 to $6 range, to find out. The $5 to $6 shirts, as one might reasonably expect, were made of fine broadcloth fabric, had good construction details, and generally conformed to marked size, but some shirts at $3 and $4 were also good in these respects. Some of those in the $3 to $4 price class, furthermore, had better workmanship and were as good or better in meeting size requirements as the shirts in the higher bracket.

The coat-style or French-style shirt which is now commonly worn was "invented" before 1900. Prior to that time men wore pull-over shirts. The soft cuff was introduced in 1910, some years before the soft collar. Graduated sleeve lengths followed shortly thereafter, condemning to oblivion the elastic arm band which up till then had been in wide use to provide sleeve length adjustment. Shirt manufacturers today stamp inside the collar band and on one panel of the front the size of the collar and the

sleeve length. These are expressed as 15-34, for example, or perhaps 15-4. The 15 is the neck size, and the 34 is the sleeve length, measured according to the Commercial Standard, from the middle of the back of the neck to the end of the cuff.

Many men say that the collar size is the most important factor of all, and it would be well to get that information correct before buying a shirt for a man. The Hathaway shirt company suggests that it is a good idea for a wife to take a piece of string and measure her husband's neck before she goes shopping for his shirts. This has some merit, but it often may not be practical.

Sleeve lengths are second in importance to collar size to many men. Fashion dictates a shirt sleeve a little longer than the suit coat sleeve, but men are likely to have their own ideas about how long that "little longer" should be. A too-short or too-long sleeve can be a constant annoyance.

Manufacturers are fully aware of men's concern with collar and sleeve sizes, CR finds, and a buyer nowadays can pretty well depend on collar and sleeve sizes being sufficiently accurate. All 15 of the shirts included in CR's present study were correctly sized as to collar and sleeve lengths, though only two of the 15 conformed to the minimum requirements for the other five measurements set forth in the Commercial Standard for Men's Shirts.

All men's white dress shirts should be fully washable, whether they are laundered on a washboard, in a machine, or sent to the laundry, to quote from the advertising of the *TruVal* shirt. The man who wears the shirt, unfortunately, is likely to blame his wife or the laundry if the shirt's appearance or condition is unsatisfactory after laundering. Such a complaint may be justified, but it certainly is not if the shirt has faults of design or workmanship which make satisfactory results in laundering difficult or impossible.

The American Institute of Laundering reported in a letter to Consumers' Research recently that difficulties in laundering white cotton dress shirts involved the collars and cuffs, primarily, and that troubles with collars could be more serious than with cuffs. Shrinkage of the stitching threads is one problem and causes wrinkles in the fabric which are very difficult to correct during pressing. The Institute noted in one of its bulletins that "snapping" cuff seams before pressing stretches the sewing thread to its original length and results in a good appearance of the seam after ironing. Shrinkage of the stitching of front buttonhole strips, the seam of the shirt pockets, or the side seams also makes for unsatisfactory results in ironing. Shrinkage of the sewing thread in the seam is also responsible for difficulties in ironing two-piece sleeves. One-piece sleeves usually are much easier to handle and give a better appearance when ironed.

Another problem in laundering new shirts is caused by an unequal rate of shrinkage of fabric in different parts of the shirts. This makes it difficult to obtain a pleasing finish during the first three to four launderings. The American Institute of Laundering states that in some cases the shrinkage seems to have been equalized after about that number of launderings and thereafter the shirt might present a good appearance.

CR tested, with one exception, shirts with fused collars, which are said to be the most popular kind. There are, however, three types of collars, a soft collar (which may be stiffened with starch), a soft collar that depends on stays or buttons to hold it down, and the fused collar. In laundering, the soft collars may present problems of unequal shrinkage of the multiply fabrics. The facing may shrink in one direction primarily and the lining shrink in another. Unequal shrinkage of this kind makes it almost impossible to eliminate wrinkles in the ironed collar.

The Laundry Institute notes that soft collars that use stays for stiffening are difficult to finish without leaving a shine or glaze on the surface of the slotted area. Naturally, the situtation isn't helped if the stay is inadvertently left in the slot, as may often happen. Real difficulties are being encountered in laundries with some shirts now appearing on the market that have metal stays in the collar. These stays have a tendency to wrinkle, causing puckering of the outer surface of the collar itself.

Shirt fabrics come in a number of cotton weaves, but the most popular fabric in a dress shirt is broadcloth. This is a smooth, clean-looking, strong cotton fabric that has a lustrous and attractive appearance. All the shirts in CR's study were made of broadcloth. In evaluating the fabrics of the shirts, the construction, tensile strength, ply of yarns, and finished appearance (evenness and smoothness) were all considered in CR's tests. The findings are summarized in Table I and may be of interest to those particularly concerned with textiles, and home economists.

The shirts themselves were checked for size according to the Commercial Standard for Men's Shirt Sizes which gives minimum requirements

Table I—Findings on Fabrics of Men's White Dress Shirts Tested

Shirt	Price	Thread count		Wt. per sq. yd., oz.	Tensile strength[1], lb.		Type[2] Fed. Spec. CCC-S-598a	Finished appearance		CR's quality rating
		warp	filling		warp	filling		before laundering	after laundering	
Arrow Dale	$5.00	161	72	3.7	81	38	I	Good	Good	Excellent
Arrow Dart	3.95	138	61	3.6	87	35	II	Good	Good	Good
Bond Style Manor	2.98	140	60	3.7	77	34	II	Good	Good	Good
Brent	2.95	144	60	3.7	85	34	II	Good	Good	Good
Brent De Luxe	3.95	162	73	3.7	81	45	I	Good	Good	Excellent
Hathaway	5.95	153	73	3.8	92	37	I	Good	Good	Excellent
Jayson Adonic	2.95	115	59	3.9	80	34	IV	Fair[3]	Fair	Fair
Longwear	2.59	144	59	3.5	80	29	II	Good	Good	Good
Manhattan Span	3.95	141	60	3.6	86	31	II	Good	Good	Good
Penney's Towncraft	2.98	147	74	3.8	87	32	I	Good	Good	Excellent
Pilgrim	2.95	144	60	3.6	83	36	II	Good	Good	Good
Pilgrim De Luxe	3.80	151	73	3.8	88	36	I	Good	Good	Excellent
TruVal Paragon	2.95	118	57	3.9	81	34	IV	Fair[3]	Fair	Fair
Van Heusen Century	3.95	144	60	3.6	82	31	II	Good	Good	Good
Wing's Rocket	2.95	118	57	3.9	81	33	IV	Fair[3]	Fair	Fair

[1]All of the fabrics were strong enough to be serviceable, although variance in the filling strength was found from 29 lb. (*Longwear*) to 45 lb. per sq. in. (*Brent De Luxe*).
[2]Type I is most desirable, having a higher thread count (and therefore finer appearance) and greater strength than Type II; Type IV has a still lower count though not necessarily less strength than Type II.
[3]Noticeably uneven or nubby appearance.

and calls for eight measurements: (1) collar, (2) chest, (3) front length, (4) back length, (5) armhole, (6) sleeves around, (7) left sleeve, and (8) right sleeve.

In CR's study, the workmanship, stitching, and garment features were evaluated, and the buttons examined for smoothness, evenness, and matching. The matching of seams, finish of buttonholes, and lack of raw edges of fabric and loose ends of thread were considered in evaluating workmanship. Buttonholes were judged good on all the shirts but the *Longwear*; many others, however, had numerous uncut and loose threads. Uneven joining of underarm seams was the most common fault in workmanship; at least one shirt of the two of each brand bought for this study had that fault. Among garment features and details, gusset reinforcement at side seams, one-piece sleeves, pleated or plain back (as opposed to a gathered back) were judged desirable. Most of the shirts tested had one-piece sleeves. Four brands, *Bond*, *Brent De Luxe*, *Longwear*, and *Manhattan*, had two-piece sleeves. Four other brands, *Arrow Dale*, *Brent*, *Jayson Adonic*, and *TruVal*, had one-piece sleeves on one shirt of two samples, two-piece sleeves on the second sample. Just why there should be this difference in construction in shirts of the same make and style designation is puzzling, particularly since most of the shirts were bought two-at-a-time. The reason for the difference is the manufacturers' secret, but it is just another instance where a brand name means what the manufacturer chooses it to mean—neither more nor less. It does not assure a particular design or construction.

All the shirts were laundered 20 times in a washing machine in water at 160°F temperature. None of the shirt fabrics showed excessive shrinkage; the collars of some shirts and the fabrics of some actually seemed to stretch in laundering, though in no case was an excessive stretch noted.

A. Recommended

Pilgrim De Luxe (Sears-Roebuck's Cat. No. 33-315-G) $3.80, plus postage. Fused collar; cotton broadcloth of excellent quality. French (seamless) front, ocean pearl buttons, fabric pleated at cuffs and at yoke in back. One-piece sleeves, one-button cuffs. Full cut with sloped tails and gusset reinforcements at sides. Size conformed to the Com-

mercial Standard in all five body measurements. Workmanship, good. **AA2**

Penney's Towncraft, Kingroyal Style (J. C. Penney Co., 330 W. 34 St., New York City) $2.98. Fused collar; cotton broadcloth of excellent quality. Panel front, plastic buttons, fabric pleated and gathered at cuffs, gathered back. One-piece sleeves, one-button cuffs. Full cut with slightly curved tails and gusset reinforcements at sides. Size conformed to Standard in three of five body measurements. Workmanship, fair. **1**

Pilgrim (Sears-Roebuck's Cat. No. 33-301-G) $2.95, plus postage. Fused collar; cotton broadcloth of good quality. Panel front, ocean pearl buttons, fabric gathered at cuffs and back. One-piece sleeves, one-button cuffs. Full cut with sloped tails and gusset reinforcements at sides. Size conformed in four of five body measurements. Workmanship, good. **1**

Brent De Luxe (Montgomery Ward's Cat. No. 35—630) $3.95, plus postage. Fused collar; cotton broadcloth of excellent quality. French (seamless) front, ocean pearl front buttons, plastic collar button, fabric gathered at cuffs, pleated back. Two-piece sleeves, one-button cuffs. Full cut with slightly sloped tails and gusset reinforcements at sides. Size conformed in three of five body measurements. Workmanship, fair. **2**

Manhattan, Span (Manhattan Shirt Co., 444 Madison Ave., New York 22) $3.95. Fused collar; cotton broadcloth of good quality. French (seamless) front, plastic buttons, fabric gathered at cuffs and back. Two-piece sleeves, one-button cuffs. Full cut with curved tails and curved sides. Size did not conform in any of five body measurements. Workmanship, good. **2**

Arrow, Dale (Cluett, Peabody & Co., Inc., 10 E. 40 St., N. Y. C.) $5. Fused collar; cotton broadcloth of excellent quality. French (seamless) front, plastic buttons, fabric gathered at cuffs and back. Two-piece sleeves on one sample, one-piece sleeves on second sample, one-button cuffs. Full cut with slightly curved tails and gusset reinforcements at sides. Size conformed in three of five body measurements. Workmanship, fair. On one shirt there were needle marks on sleeve and side seams where seams were altered. **3**

Hathaway (C. F. Hathaway Co., Waterville, Me.) $5.95. Soft collar with stays; cotton broadcloth of excellent quality. French (seamless) front, ocean pearl buttons, fabric gathered at cuffs, plain back. One-piece sleeves, one-button cuffs. Full cut with slightly curved tails, bar-tacked at sides. Size conformed in all five body measurements. Workmanship, good. **3**

B. Intermediate

Brent (Montgomery Ward's Cat. No. 35—676) $2.95, plus postage. Fused collar; cotton broadcloth of good quality. Panel (center-pleat) front, plastic buttons, fabric gathered at cuffs, pleated back. Two-piece sleeves on one sample, one-piece sleeves on second sample, one-button cuffs. Full cut with slightly sloped tails and gusset reinforcements at sides. Size conformed to Commercial Standard in three of five body measurements. Workmanship, fair. **1**

Jayson, Adonic Jay-Fern (F. Jacobson & Sons, Inc., 1115 Broadway, New York 10) $2.95. Fused collar; cotton broadcloth of fair quality (fabric was uneven, showed many bunches or knots). Panel front, plastic buttons, fabric gathered at cuffs, plain back. Two-piece sleeves on one sample, one-piece sleeves on second sample, one-button cuffs. Full cut with sloped tails and gusset reinforcements at sides. Size conformed in three of five body measurements. Workmanship, good. Resistance of fused collar to damage in laundering, fair. No separation or blistering of the outer collar fabric was noted after 20 launderings, but inner collar fabric showed noticeable blisters and separation of fabric in various areas after four launderings. **1**

Longwear (New Process Co., Warren, Pa.) $2.59. Fused collar; cotton broadcloth of good quality. Panel front, plastic buttons, fabric pleated at cuffs and back. Two-piece sleeves, one-button cuffs. Full cut with sloped tails and gusset reinforcements at sides. Size conformed in only two of five body measurements. Stitching and buttonholes, fair. Workmanship, fair. **1**

TruVal, Paragon Prime (TruVal Mfrs. Inc., Publix Shirt Corp., 281 Fifth Ave., New York 16) $2.95. Fused collar; cotton broadcloth of fair quality. Panel front, plastic buttons, fabric gathered at cuffs, pleated back. Two-piece sleeves on one sample, one-piece sleeves on second sample, one-button cuffs. Full cut with sloped tails and gusset reinforcements at sides. Size conformed in only two of five body measurements. Workmanship, good. **1**

Arrow, Dart (Cluett, Peabody & Co., Inc.) $3.95. Fused collar; cotton broadcloth of good quality. French (seamless) front, plastic buttons, fabric gathered at cuffs and back. One piece-sleeves, one-button cuffs. Full cut with slightly curved tails and gusset reinforcements at sides. Size did not conform in any of five body measurements. Workmanship, fair to good. **2**

Van Heusen, Century 100 (Phillips-Jones Corp., 1225 Broadway, N. Y. C.) $3.95. Fused collar; cotton broadcloth of good quality. Panel front, plastic buttons, fabric gathered at cuffs and back. One-piece sleeves, one-button cuffs. Full cut with slightly curved tails and gusset reinforcements at sides. Size conformed in two of five body measurements. Workmanship, fair to good. **2**

C. Not Recommended

Bond, Style Manor Supreme (Bond Clothing Stores, Fifth Ave. and 35 St., New York 1) $2.98. Fused collar; cotton broadcloth of good quality. Panel front, plastic buttons, fabric gathered at cuffs and back. Two-piece sleeves, one-button cuffs. Full cut with sloped tails curved at sides. Size conformed in only one of five body measurements. Workmanship, fair. Collar showed slight blistering after two launderings; after five launderings blisters were noted at the collar point areas and the edge of the outer collar fabric. 1

Wings, Rocket (Wings Shirts, 4 W. 33 St., N. Y. C.) $2.95. Fused collar; cotton broadcloth of fair quality. Panel front, plastic buttons, fabric gathered at cuffs, plain back. One-piece sleeves, French cuffs. Full cut with curved tails and curved sides. Size conformed in only one of five body measurements. Workmanship, fair. 1

A Dacron-and-cotton dress shirt

Dacron-and-cotton white dress shirts are now on the market, sold with claims for easy laundering, quick drying, and no ironing. The new shirts have an appearance different from shirts made of either nylon or Dacron, which are sold with similar claims. Shirts made of nylon and shirts made of Dacron are more transparent and have a higher luster than the cotton broadcloth dress shirts to which men are accustomed. The kind of Dacron-and-cotton shirt that CR studied was made of a batiste fabric which was more sheer than cotton broadcloth, but it was white and looked more like the white cotton broadcloth shirts that men have been used to all these years.

CR bought the *Balta-Blend* shirt, sold by B. Altman & Co., in New York City, which was labeled as having a fabric of 65 percent Dacron and 35 percent cotton. The men who wore the shirt for CR reported that it had a soft, natural feel of a cotton shirt and lacked the "cold feel" of nylon and Dacron and did not give trouble with static electricity as nylon and Dacron shirts do.

The shirt was washed by hand, hung on a hanger while dripping wet, and was dry and relatively wrinkle-free for the first five wearings and washings. As CR's test progressed, however, the shirt lost its wrinkle-free look, and after 15 launderings it was given a quick pressing with a steam iron to restore its good appearance. Dirt around the collar became increasingly difficult to remove as the test progressed, and was considered to have reached an objectionable stage at about the tenth laundering. At about the same time pilling (evident as tiny rolls or balls of loosened fiber) was noted around the neckband on the collar. The pilling, in fact, contributed to the soiled look of the collar, but as it was on the inside, it was not too objectionable from an over-all appearance standpoint. The thread used to stitch the sleeves and side seams shrank, causing puckering of seams which was unsightly and objectionable.

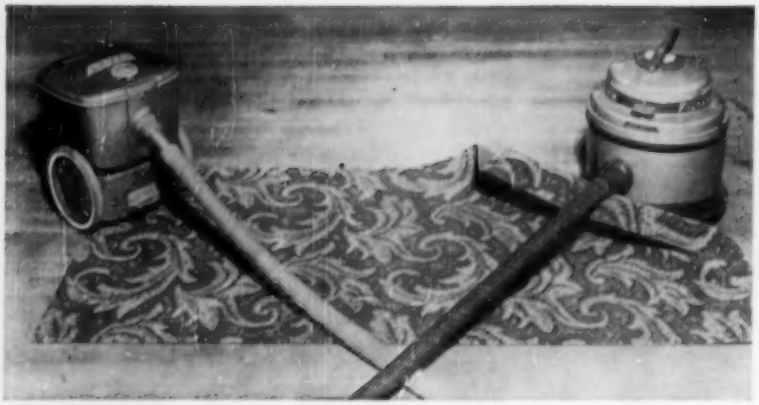
The Dacron-and-cotton shirt which CR bought cost $11, but shirts of similar fabrics are available at $7 to $13—several times the price of a medium-priced cotton broadcloth shirt. It is, of course, possible to save considerable laundering expense if one formerly sent white dress shirts to the laundry. The Dacron-and-cotton shirt is easier to launder at home, and there is the advantage of being able to wear it for a number of times at least without the necessity of having it ironed—a boon to the traveler.

It should be noted that a price of $11 is no guarantee of satisfactory workmanship in a shirt. One of the *Balta-Blend* shirts which CR bought had to be returned because the right sleeve was imperfectly finished. The buttonhole on one cuff had not been finished; half of it had not been stitched at all. Furthermore, there was a cut inside the sleeve placket. Neither of these faults could be observed by the purchaser, who received the shirt neatly wrapped in a cellophane package.

In general, CR believes that Dacron-and-cotton shirts will be bought on the basis of convenience rather than for reasons of economy. We do not know how long a Dacron-and-cotton shirt would last, but we have found that some shirts made of Dacron fiber alone have outlasted cotton shirts. Indications are that in some respects, principally in comfort of the wearer, the Dacron-and-cotton shirts have advantages over shirts made of either nylon or Dacron.

B. Intermediate

Balta-Blend (Sold by B. Altman & Co., Fifth Ave., New York City) $10.95. Soft collar; 65% Dacron, 35% cotton, batiste. French (seamless) front, ocean pearl buttons, fabric gathered at cuffs, plain back. One-piece sleeves, one-button cuffs. Full cut with curved tails. Size conformed to Commercial Standard in four of five body measurements; collar and sleeve lengths conformed to marked size. Inner collar fabric showed noticeable pilling after 10 launderings; fabric of shirt showed noticeable wrinkling after seven launderings; seams puckered badly after four launderings. 3



The large wheels on which the new Lewyt cleaner is now mounted were much to be preferred to the metal dolly supplied with the Filter Queen as a means of pulling the cleaner, for example, onto small scatter rugs. The metal balls used on the Wards also tended to catch at the edge of rugs.

Vacuum Cleaners

THE ART of high pressure salesmanship reaches its peak perhaps in the vacuum cleaner field, and there are few of us who have not, at some time, been subjected to very convincing home demonstrations by at least one vacuum cleaner salesman. CR has pointed out for many years that the primary use of a vacuum cleaner is to remove loose dust and dirt from the rugs in a home, and the only way one can determine the relative dirt-removing ability of a cleaner is by carefully controlled comparative tests—which are not at all of the sort that a salesman could carry out in the home of a prospective customer.

Sales demonstrations in the home run the gamut from recleaning a rug which the homemaker has just cleaned with her own cleaner, to sharpening the kitchen knives. In the former instance, it is probable that the old cleaner would have removed about as much dirt as the one being demonstrated if the old cleaner had been used again, instead of the new one. Contrary to what many consumers evidently believe, a vacuum cleaner does not remove *all* of the dirt from a rug in one pass or any number of passes. There will be some dirt left, even after normal cleaning of a given area, to be picked up by whatever cleaner is used next. Other demonstrations, put on by aggressive salesmen guided by manufacturer-supplied sales manuals and oral instructions in which every detail of the sales presentation is set forth, are intended to show the amount of vacuum created by the cleaner, but do not take the shape of the nozzle into consideration. Obviously, a high vacuum does not of itself guarantee effective cleaning, as may be seen in the listings. It is but one of a number of factors that enter into determining the speed at which dirt will be removed from a rug or carpet.

Attachments

While most modern vacuum cleaners are designed primarily for rug cleaning, the customer is also commonly supplied with a set of attachments for cleaning draperies, radiators, upholstery, and other above-the-floor items. Basic attachments normally supplied are a small nozzle for cleaning upholstered furniture, a crevice tool for radiators and other hard-to-get-at places, a small circular brush for dusting furniture, lamp shades, etc., and a nozzle with bristles around its edge for use on bare floors. The effectiveness of such tools will depend, for the most part, on the amount of suction created by the cleaner, since the action in cleaning a drape, for example, is almost entirely dependent upon the speed of air flow into the nozzle. This may be one of the reasons for the increasing popularity of the tank and canister cleaners. They will usually create a much higher suction, and therefore it is a reasonable expectation that they will do a much better job on above-the-floor cleaning, where the effective revolving-brush action of the upright cleaner cannot be utilized. Moreover, the tank or canister cleaner has the advantage that the various cleaning attachments for radiators, drapes, etc., are easily and quickly applied, whereas, with an upright cleaner, the fitting of the various devices can be something of a job, requiring more time and effort than the homemaker may care to use.

While CR could develop test procedures to evaluate the various attachments, the basic attachments of the various brands of cleaners tested were similar and did not seem to warrant such tests. The suction created by each cleaner under standard conditions is, however, included in the listings; this gives an indication of how well the cleaner will work on above-the-floor tasks. It should be noted, however, that in some instances, such as in cleaning light drapes or curtains, the amount of suction created by some of the cleaners may actually be considered excessive, from the standpoint of convenience and speed in using the appliance. For that reason, those cleaners which contain a means for varying the amount of vacuum offer a slight advantage.

There are definite directions in most instruction booklets regarding the proper methods to follow to maintain a vacuum cleaner in good working order, and the consumer should follow these. One instruction likely to be most often disregarded is the one pertaining to the emptying of the dirt collector. Any vacuum cleaner is dependent upon continued good suction for its proper operation. A cleaner will put forth its best efforts for its owner only when the dirt collector is empty or nearly so. As the dust, dirt, and fuzz picked up gradually fill the bag, the suction at the nozzle decreases, and if the bag is not emptied, the efficiency of a cleaner may approach a vanishing point; moreover, the life of the cleaner may be shortened because of the increased speed and poorer cooling of the motor particularly on tank and canister cleaners.

Assuming, and likely with a good deal of justification, that the homemaker's reluctance to expose herself to flying dust when emptying the dirt collector was a major objection to the frequent use of the appliance, many manufacturers have developed a disposable paper container which is merely removed and thrown away, with its contents, when considerable dirt has accumulated. While such a dirt collector is satisfactory, many users find the cost of bag replacement nearly prohibitive (cost varies from 17 cents to 50 cents). As a result, they either tend to use the paper bag long after it should be discarded or emptied or re-use it a number of times. In so doing, they lose the advantage for which the disposable bag construction was originally developed.

When purchasing replaceable paper dirt collectors for your cleaner, you would be wise to buy only those recommended by the manufacturer. Not every sort of paper bag will be satisfactory. It has been reported that some consumers have tried ordinary brown paper bags from the corner grocery, and if off- or "bootleg"-brands are used, there is a good chance that the efficiency of the cleaner will be reduced or the life of the motor shortened. In such a case, there would be no recourse to the manufacturer of the cleaner.

CR's tests

The methods of test chosen to evaluate a vacuum cleaner are based primarily upon the need to determine the ability of the cleaner quickly to remove dirt from a rug. Various factors which are taken into consideration when designing the best method include the type of soil to be used, the methods of imbedding the soil in the test carpet, the time of use of the cleaner needed to remove a reasonable amount of the imbedded soil, and possible differences in results due to the kinds of carpets to be cleaned.

Changes have been made in procedures from time to time during the past 15 years in an effort to improve upon the method of test. In the last two series of vacuum cleaner tests, for example, the four most common kinds of rugs were used, with the thought that some brands or types of cleaners might be particularly well adapted for certain types of rugs. The test results did not, however, indicate that the kind of rug to be cleaned would make a great difference in the ratings.

Upright cleaners as a class were generally preferable to the tank and canister types on all

Kirby upright cleaner showing the many attachments supplied as standard equipment.

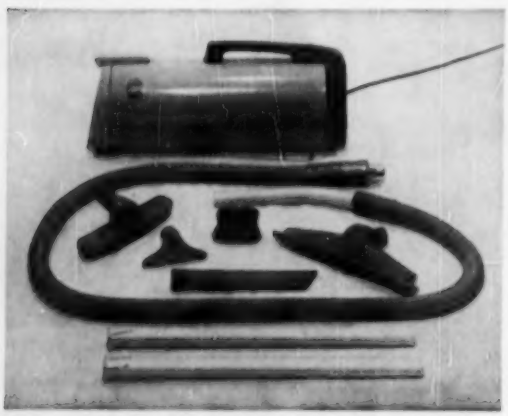
types of rugs used in the test, though not all upright cleaners gave better cleaning action than the best of the tank or canister cleaners. It was felt that the small differences found in the ease of cleaning the four types of rugs were presumably due to inability to attain similar degrees of soiling in the rugs because of differences in their construction.

The results of new tests, in which the time given to working the soil into the rug was varied, were interesting. The method clearly exhibited the relationships between the dirt-removing abilities of the several cleaners of a type, and, in addition, the differences between the different types of cleaners with the test soil lightly imbedded; there was little difference to indicate any great advantage of one good cleaner over another of any type. Thus, for surface soil and dirt which has not penetrated deeply into the rug, the housewife would likely do an equally satisfactory cleaning job with almost any cleaner. As the soil was more deeply worked into the rug (as would occur with time and use) it was found that among the three general types a good upright cleaner with revolving brush gave a good deal quicker cleaning.

Although CR has previously indicated that a good tank or canister cleaner will likely clean a rug as thoroughly as a good upright cleaner, if sufficient time is taken, the results of the present tests indicate that for deeply imbedded soil, usually found in those areas in the home where traffic is greatest, the upright cleaner is to be preferred, irrespective of the time the cleaner is used. It is evident that simple suction, even if the suction power is considerable as is the case on many tank and canister units, does not have the ability to remove deeply imbedded soil (soil that sinks deeply into the pile of a rug) either rapidly or thoroughly.

The action of the revolving brush on the upright cleaners appears to be needed to move and shake the pile fibers, so that the dust may be dislodged and thus made susceptible to being "sucked-up" by the cleaner. There was no indication in the present series of tests that a revolving-brush cleaner was likely to remove a greater percentage of rug nap than either the tank or canister type.

The two general kinds of cleaners, (1) upright, and (2) tank and canister, have been separated in preparing the listings since it is felt that the reader will have a definite choice as to type before referring to them. Each cleaner passed the high-voltage breakdown test, a test which gives an indication of the probable life and safety of the electrical insulation and the care taken in selection of materials and their assembly to insure against possible future deterioration of the insulation. Leakage current, which is a measure of shock hazard, was satisfactorily low in all cleaners except the *Filter Queen*, and even in that instance was not considered sufficiently high to be questionable. All of the cleaners tested are included in the listings of the Underwriters' Laboratories. Rated watts input is followed in parentheses by the measured watts input at 115 volts a.c.



Typical-tank cleaner with attachments.

Upright, revolving-brush cleaners

A. Recommended

Hoover, Model 63 (The Hoover Co., North Canton, Ohio) $116.95. Cleaning attachments, $22.95 extra. Weight, 19 lb. Rated watts, 420 (330). Disposable dust collector (paper bag). Cord length, 20.8 ft. Dirt-removing ability: for lightly imbedded soil, good; for deeply imbedded soil, very good. Suction lift, an indication of the efficiency of the cleaning attachments, low. Comparatively noisy during operation. Attachment wand and nozzle were locked in place, a good feature. This vacuum cleaner created objectionable interference on radio and television. 3

Kirby, Model 514 (The Scott & Fetzer Co., 1920 W. 114 St., Cleveland 2) $195.80 complete. Among the many attachments included, some of which many consumers might not have enough use for to warrant their purchase, were a demothing unit, a massage cup, a flexible shaft with a buffing wheel, a grinding wheel, and a floor polisher. The weight of the *Kirby* as set up for rug cleaning as an upright cleaner was 16 lb. Rated 4 amperes at 110 volts (340 watts). Cloth bag dirt collector, but design is such that it is unnecessary to detach the bag when emptying—the contents of the bag are shaken into the

receptacle (part of the housing) to which the bag is attached. The cleaner is then placed on a newspaper and the bottom of the container released and swung aside, dropping the dirt on the paper. Cord length, 21.9 ft. Dirt-removing ability: good on both lightly and deeply imbedded soil. Suction lift, an indication of the efficiency of the attachments, low. Comparatively noisy during operation. Nozzle and extension tube sections used friction fit which CR does not consider as desirable as a positive locking arrangement for fastening the separate elements. Created objectionable radio and TV interference. **3**

B. Intermediate

Hoover Lark, Model 12 (The Hoover Co.) $84.95. Cleaning attachments, $13.95 extra. Weight, 15 lb. Rated watts, 245 (175). Disposable paper bag dirt collector. Cord length, 21.2 ft. Attachment wand and nozzle locked in place, a good feature. Dirt-removing ability: for lightly imbedded soil, fair; for deeply imbedded soil, good. Suction lift, low. There was some rubbing off of aluminum or aluminum alloy from the rug nozzle, which might make this cleaner undesirable for use on very light colored rugs. Comparatively noisy when in use. There was objectionable interference on radio and television. **2**

Tank and canister cleaners

A. Recommended

Hoover, Model 55 (The Hoover Co.) $89.95 complete with attachments. Tank. Weight, 14 lb. Watts input, 620 (490). Semi-permanent cloth bag dirt collector. Cord length, 18.4 ft. Air is discharged through opening in end and not dispersed as with some tank-type cleaners, a disadvantage since the fast-moving stream of air will often tend to disturb dust on floors and spread it about a room. This cleaner was pulled around on metal runners which extend over length of machine. Stability, satisfactory. Friction fits between nozzle and wand sections not considered as desirable as more positive method of securing sections. Dirt-removing ability: for lightly imbedded soil, good; for deeply imbedded soil, fairly good. Suction lift, an indication of the efficiency of the cleaning attachments, adjustable, a good feature; range, low to high. Noise during operation, moderate. Created objectionable radio and television interference. **2**

B. Intermediate

Wards, Model 45 AC 362C (Montgomery Ward & Co., Baltimore) $69.95 at retail store. Cat. No. 85—362 M in 1954-55 Fall and Winter Cat. at $66.95, plus postage, appears similar. Canister. Weight, 17 lb. Measured watts input, 560. Cloth dirt collector. Cord length, 18.4 ft. Air is discharged through opening in side and not dispersed. Cleaner moved on 3 metal balls, mounted on base of cleaner housing. Ball casters are not considered a desirable rolling support for use on polished hardwood floors. Ease of moving about was considered only fair. Stability, satisfactory. Nozzle and wand sections were held together with friction fit only, relatively undesirable. Dirt-removing ability: for lightly imbedded soil, good; for deeply imbedded soil, fair. Suction lift could be adjusted from low to high—a desirable range—best in this respect, of cleaners tested. Relatively quiet in operation. There was objectionable radio and TV interference. **1**

Kenmore 116.7020 (Sears, Roebuck & Co., Chicago) $74.95, plus postage, complete with attachments. Canister. Weight, 17 lb. Rated watts, 525-550 (650). Disposable paper bag dirt collector. Cord length, 19.5 ft. This vacuum cleaner includes means for dispersing at lower velocity the air discharged, so as to reduce the dust difficulty mentioned in connection with the *Hoover 55*. Cleaner could be pulled from place to place on a rug by sliding on flat bottom of canister but would normally require lifting from room to room. Stability, satisfactory. Nozzle and wand sections used friction fit, relatively undesirable (see comment under *Hoover 55*). Dirt-removing ability: for lightly imbedded soil, good; for deeply imbedded soil, fair. Suction lift, high—good. Operation was quiet. Radio interference, slight; TV interference, objectionable. ¶This cleaner has been replaced by Cat. No. 20—0704L at $64.95, plus postage. No tests have been made on this newest model. **2**

Lewyt, Model 77 (Lewyt Corp., 60 Broadway, Brooklyn 11, N. Y.) $89.95 including cleaning tools. Canister. Weight, 15.5 lb. Rated watts input, 650 (570). Disposable paper bag dirt collector. Cord length, 20.5 ft. Has means, as on *Kenmore 116.7020*, for dispersion of the discharged air. Cleaner was pulled from room to room on 2 large rubber-tired metal wheels, an arrangement new in the vacuum cleaner field. It was CR's opinion that the design was very ably engineered and offers some advantage in ease of use over a cleaner with runners or casters. Stability and maneuverability were very good. Nozzle and wand sections held by combination friction and pressure arrangement, desirable. Dirt-removing ability: for loosely imbedded soil, good; for deeply imbedded soil, fair. Suction lift, adjustable, low to medium. Relatively quiet in operation. Negligible radio and TV interference—much the best of all cleaners tested in this respect. **2**

Filter Queen, Model 350 (Health-Mor Inc., 203 N. Wabash Ave., Chicago 1) $137.45 complete with attachments. Canister. Weight, 20 lb. Rated watts input, 550 (560). Disposable paper filter, but dirt is collected in bottom of canister and emptied as needed. Cord length, 19.2 ft. Has means, as on the *Kenmore 116.7020*, for dispersion of the discharged air. Cleaner was pulled from room to room on smooth steel bottom or the small platform ("dolly") with casters could be utilized; the dolly is to be preferred. Stability, satisfactory. Nozzle and wand sections are joined by positive locking arrangement, desirable. Dirt-removing ability: for loosely imbedded soil, good; for deeply imbedded soil, fair.

Suction lift, high. Operation, very quiet. Radio interference, slight; TV interference, moderate. 3

C. Not Recommended

Electrolux XXX (Electrolux Corp., 500 Fifth Ave., New York City) $78 complete with attachments. Tank. Weight, 13 lb. Rated watts, 535 (530). Cloth bag dirt collector. Cord length, 17.9 ft. Air is discharged through a single outlet at end of cleaner and, although directed upward, the air stream was fast-moving (see comment under *Hoover 55*). Cleaner is pulled about on metal runners extending the length of machine. Stability, satisfactory. Friction fit of nozzle and wand sections, not considered as desirable as more positive locking method. Dirt-removing ability: for lightly imbedded soil, fair; for deeply imbedded soil, poor. Suction lift, high. Motor was relatively quiet, but there was a significant amount of noise produced by the rush of air through the nozzle. Radio interference, slight; TV interference, objectionable. 2

Vacuum cleaners for light service

The following are cleaners which have some special advantage, such as light weight or easy adaptability, with some corresponding deficiency in speed and thoroughness of cleaning.

A. Recommended

Regina Electrikbroom, Model L (The Regina Corp., Rahway, N. J.) $49.95. A small upright cleaner using straight suction without revolving brush. Weight, 7 lb., relatively light. Rated watts input, 300 (240). Cord length, 22.2 ft. Dirt is collected in a plastic cup (part of cleaner) which is emptied as needed. Discharged air adequately diffused through bag. Dirt-removing ability: for both lightly and deeply imbedded soil, fair. (The plastic comb or gleaner in the nozzle was removed for CR's tests because the cleaner could not be moved readily over the rug when the device was in place.) Suction lift, low. Operation, comparatively noisy. Objectionable radio and TV interference. 2

B. Intermediate

Westinghouse Porta-Vac, Model T-12 (Westinghouse Electric Corp., Electric Appliance Div., Springfield, Mass.) $49.95. Portable tank cleaner supplied with a shoulder carrying strap. Weight, 7 lb. Rated watts input, 300 (260). Disposable paper bag dirt collector. Cord length, 16.5 ft. Discharged air is adequately diffused. Nozzle and wand sections are held only by friction, an arrangement considered not as desirable as some more positive locking methods such as those used by such vacuum cleaners as the *Filter Queen* and *Lewyt*. Dirt-removing ability: for both lightly and deeply imbedded soil, poor, but deemed satisfactory for the light cleaning tasks for which this cleaner is intended. Suction lift, low. Objectionable amount of radio and television interference. 2

Errors of Instruments Used in Hospitals for Diagnosis

INSTRUMENTS used in a large hospital were studied by Drs. E. Grey Dimond and Martin H. Andrews, of Kansas City, Kansas, who tested clinical thermometers and urinometers. The investigations were carried out because of observations that had seemed to indicate that temperature graphs and urine specific gravity readings on some patients were not reliable. Of 465 clinical thermometers tested, only 34 (or 7 percent) were found to agree closely with the standard or reference thermometer. Another 7 percent were different from the standard by a degree or more; only 78 percent of the thermometers fell within a deviation of less than 0.5 degree. A few individual errors were found as large as 1.5 to 3.3 degrees. Some thermometers gave the correct temperature, but when they were removed from the water-bath test medium, the mercury column would retreat immediately instead of remaining at the temperature measured, as it should. Other thermometers gave difficulty by not "shaking down" as they should.

Of 15 urinometers tested, 75 percent were inaccurate, some to an extent that they would give misleading information in certain disease conditions. The authors remarked: "A persistent failure to concentrate urine to 1.010 or more can very probably be caused by a faulty urinometer. Laboratory technicians and all other persons who use and place reliance on such instruments need to be aware of such possibilities."

A brief report of the study by Dr. Dimond and Dr. Andrews appeared in the Journal of the American Medical Association for September 11, 1954, at pages 125-126.

Reports on Automobiles—1955 Pontiac and MG

THE *Pontiac Star Chief Custom V-8* is the first of the 1955 crop of cars to be tested by CR. The impression one gets after driving this car and viewing the others that have so far been obtained is that there is a strong resemblance between *Fords*, *Plymouths*, *Dodges*, and several of the low- and medium-priced General Motors cars. If the special identifying marks were to be removed, few would be able to tell which car was which, or which was in the *Ford-Plymouth-Chevrolet* class and which in a higher price bracket. Much of the similarity of appearance is doubtless due to the wide adoption of wrap-around windshields in this year's cars, and specifically in the cars named above.

Chevrolet and *Plymouth* offer 6-cylinder engines as before, but, like *Ford*, also have a V-8 of higher power. *Pontiac*, too, has a new V-8 engine.

Horsepower ratings have further been increased with *Cadillac* leading the parade to date with an awe-inspiring rated horsepower of 270—which is almost double the pre-war rated horsepower of this make. Even on most of the so-called "low-priced" cars, the engines are more powerful than is desirable or necessary for today's roads and traffic conditions. Unfortunately, braking ability does not appear to have been correspondingly increased, and indeed there is no possibility of improving braking ability to an extent that even approximately keeps pace with the phenomenal rise in horsepower ratings of the past two years, since, ultimately, braking is limited by the coefficient of friction of the tires against the road surface. This resistance is naturally subject to wide fluctuation with weather and road conditions. Power braking helps in some degree to compensate for the extra dangers presented by higher horsepower, particularly for persons who are not physically strong, but nothing, of course, can compensate for misuse of added horsepower where road conditions are unfavorable. The extra horsepower may often

Editor's Note: *Tests of 1955 automobiles are now in progress, and the reports will be issued in the monthly* BULLETINS *as fast as the cars can be obtained, and tested. Subscribers should bear in mind that to make a proper evaluation of a car takes time, and it is impossible to report on any model until it has been in actual distribution for some weeks, and has been subjected to tests, which themselves take considerable time. Every effort is made to obtain the test cars promptly, but frequently there are delays of an unforeseen and unavoidable character. The cars must also be driven by several engineers until at least 1500 miles have accumulated before the various detailed technical tests for performance and other factors can be carried out. These first reports on automobiles are necessarily tentative; final evaluation of any car or model must await the completion of the work on a good many other cars, since the ratings are necessarily relative; that is, each car must be judged in relation to other cars of its type in its general price class.*

Cars now undergoing test are Ford V-8, Chevrolet V-8, Plymouth V-8, Dodge Royal V-8, Studebaker Champion, and Buick Special.

Pontiac Star Chief Custom

affect to a significant extent the tax which must be paid to the states where the registration fee is based on engine horsepower. The fee for this year's *Chevrolet V-8* in New Jersey, for example, will be about 50 percent more than that charged for the 1954 *Chevrolet 6*. Other states where horsepower rating enters into the charge for registration of a car are: Arkansas, Illinois, Maine, Massachusetts, Mississippi, and Missouri.

Tubeless tires have been widely adopted as standard equipment; these have some advantages and some disadvantages, which will be discussed in a subsequent BULLETIN. They are on the whole, so far as can now be judged, a desirable improvement.

Pontiac Star Chief V-8

A– (Tentative)

Pontiac Star Chief Custom. $2455 delivered at factory. (Delivered price in New Jersey, $2443 plus $81 freight and $35 delivery and handling charge. Of the $2443, $171 is federal excise tax.) *Hydra-Matic* transmission, $178.35.

A satisfactory car for those who wish to purchase in this price class. For this car, a good many drivers will probably wish to order power brake equipment at $35.50 extra.

CR'S FINDINGS ON ROAD TESTS

Acceleration times from 0 to 30 m.p.h., 4.5 sec.; from 0 to 60 m.p.h., 14.7 sec.; from 20 to 50 m.p.h., 9.2 sec.; from 40 to 60 m.p.h., 8.1 sec. While these figures can be considered good by last year's standards, they are not as good as those obtained with the 1954 *Oldsmobile Super 88*, which had an engine of not far from the same rated horsepower. CR feels, however, that the figures given represent more than ample acceleration for any driver.

Gasoline mileage under test conditions: at 50 m.p.h., 18.5 m.p.g. (the 1954 straight eight *Pontiac* gave 17.6 m.p.g.).

Riding comfort was considered very good, overall. Steering was precise and required little effort but was slow (required too many turns of the steering wheel). Roadability and stability on curves was very good.

Speedometer errors: the speedometer was approximately correct at speeds of 20, 35, and 50 m.p.h. **Odometer** was incorrect by about 1% (100 miles recorded as 101 miles).

Equipment on car tested: This car was equipped with practically all the available accessories except power steering and power brakes. The charge for the accessories that were present came to a total of $626.

OBSERVATIONS AND CONCLUSIONS

The new V-8 engine (which the manufacturer claims has undergone the equivalent of around three million miles of dynamometer and road testing before going into production) has a compression ratio of 8 to 1, and calls for the use of premium gasoline. The new engine is rated at 180 hp., a very substantial increase over last year's "straight 8," which was rated at 127 hp. The new V-8 with a 7.4 to 1 compression ratio is available as optional equipment for cars with the standard transmission. With the lower ratio, regular gasoline can be used. The new *Pontiac* uses a new type of crankcase ventilation system designed to reduce sludging and oil dilution; there are two air inlets near the front and top of each valve cover. Oil can be added to the crankcase through either one. A very desirable floating oil intake screen is used this year and a full-flow oil filter is available as optional equipment. The almost flat hood, which is at approximately the same level as the tops of the fenders, gives the car a broad, boxy look from the front seat and an illusion of great width which some drivers will certainly consider psychologically undesirable. (Actually, width at the front is not significantly different than that of last year's model.) Visibility is very good in all directions, and the fact that all four fenders can be seen by the driver is a considerable help in parking. Although the car is about 3 in. lower in over-all height than last year, headroom both front and rear is ample. One definitely objectionable feature is the height of

PONTIAC STAR CHIEF CUSTOM 4-DOOR SEDAN SPECIFICATIONS

Engine

8 cylinders in V arrangement, valve-in-head
Bore, 3.75 in.; stroke, 3.25 in.
Piston displacement: 287 cu. in.
Brake horsepower (rated): 180 at 4600 rpm.
Taxable horsepower: 45
Compression ratio: 8 to 1 (requires premium gasoline)
Cylinder head: cast iron
Automatic choke
Crankcase oil capacity: 5 qt.
Oil filter: full-flow at extra cost
Cooling system: 24 qt. plus 2 qt. for heater

Chassis, etc.

Wheelbase: 124 in.
Over-all length: 210 in. (3-1/2 in. less than 1954)
Width: 75.5 in.
Height: 60.5 in. (about 3 in. less than 1954)
Gear ratio: 3.64 to 1 with standard transmission (3.23 to 1 with automatic)
Engine revolutions per mile: 2690 (2390 with Hydra-Matic)
Tires: 7.10 x 15 tubeless (overloaded)
Brake area: 178 sq. in. (171 sq. in. in 1954)
Brake factor: 40
Frame: channel side rails and cross members, I beam "X" members
Minimum road clearance: 6.7 in.
Turning diameter: 42 ft. 11 in.
Front shoulder room: 56.5 in.
Rear shoulder room: 56.4 in.
Steering factor: 4.7

Other details

Battery: 12-volt 50-amp.-hr.
Gasoline tank: 20 gal.
Windshield wipers: vacuum type
Shipping weight: 3666 lb.
Curb weight of car tested: 4016 lb., 55% on front

the hump for the transmission. This is very bulky in the front seat space and in effect reduces the front seating capacity to 2 persons. A third person, unless a small child, sitting in the center would be quite uncomfortable on a long trip. The relation of the rear seat to the rear window was such that in case of a sudden start a tall person who was long above the waist could bump his head hard against the top of the metal frame of the rear window. The *Hydra-Matic* transmission has been changed to handle the increased torque from the V-8 engine. When the car is in fourth gear, a partial depression of the gas pedal produces a down shift to third gear at speeds below about 27 m.p.h. To down shift at speeds above this, the pedal must be completely depressed. The transmission on the test car did not work correctly as received, and had to be replaced with a new one. The engine was very quiet at high speeds. Heater controls are simple and easy to operate and do not require reference to an instruction book, as many do, in order to permit their being used correctly. Air intake on top of cowl (desirable as it will greatly lessen the amount of carbon monoxide picked up from the car ahead when traveling in a closely spaced traffic line). Pontiac is to be commended for not following the trend of some other companies in substituting mere indicator lights for the battery charge ammeter and the oil pressure gauge. The brakes required considerable pressure to operate; it is considered that, on account of this, power brakes will be a desirable accessory for this car for drivers who are not capable of considerable physical effort. Trunk space was very large, and well arranged for convenience in loading and unloading.

A Sports Car—the MG "TF" 1500

The *"TF" 1500* is the latest model of the very popular *MG* sports car. In all probability, the *MG* is responsible for initiating the current interest and popularity of sports cars in the United States. Soon after World War II, a few *MG's* began to appear in this country. The striking appearance of this small car and its good performance on the road attracted considerable attention, and sales increased. In a few years other makes of imported sports cars found a good market in the U.S., but the *MG* is still next to the top sports car in sales in this country.

The *MG* is lower in price than the other sports cars tested by CR, and because of its great popularity has a rate of depreciation that is reasonably low for a sports car. Furthermore, finding a service station familiar with the car and able to service it properly is much less of a problem than for most other foreign cars. Of course, qualified service is not available at every corner garage or even in every city and town, as it is for most of the better-known cars of American manufacture.

Editor's Note: *In the matter of sports cars in general, readers who are interested in their advantages, special features, and limitations will find it well worth while to read the more comprehensive article which includes reports on three popular sports cars (Triumph, Austin-Healey, and Jaguar) which appeared in the December 1954 Bulletin at pages 5 to 11.*

CR's tests

As a basis for evaluation, the *MG* was subjected to the same tests and examinations as are given to American cars. Compared to most current American cars, the *MG* is small and low powered, but is easy to steer and park, gives very good gasoline mileage, and is fun to drive. The *MG* has just enough room for two people (two bucket seats) and no more. The revolutions per minute of its little (but efficient) four-cylinder engine are high, up to about 5500, even in fourth gear.

The *MG* cannot match the sports cars previously tested by CR (the *Jaguar*, *Austin-Healey*, and *Triumph*) in acceleration through-the-gears, or in top speed. Furthermore, the *MG's* high gear ratio results in a high rate of piston travel (high speed of piston travel implies a relatively high rate of wear, as a rule). The *MG*, however, does have good roadability and handling qualities, and best of all, sells at a comparatively low price compared with other well-known sports cars. It would be a good "second car" for those who want sports car qualities—but it does not have the power to pass everything on the road.

A–

MG "TF" 1500. $2050 delivered N.Y.C. With wire wheels, $2185. Heater, $58; radio, $100.

Performance and handling qualities were good, but, overall, not the equal of other sports cars tested by CR (Jaguar,

MG "TF" 1500

Austin-Healey, and Triumph). The MG was well built and is considered a good choice for the person who does not require the flashing acceleration and very high speed performance of the more expensive sports cars.

CR'S FINDINGS ON ROAD TESTS

Gasoline mileage at constant speed on level road: at 30 m.p.h., 38.2 m.p.g.; at 50 m.p.h., 29.5 m.p.g. (both very good, and better than any 1954 American car tested).

Acceleration times from 0 to 60 m.p.h. (shifting at 4000 rpm.), 20 sec., best (average, 21.0 sec.); from 20 to 50 m.p.h. in third gear, 10.3 sec., in fourth gear, 13.5 sec.; from 40 to 60 m.p.h. in third gear, 9.2 sec., in fourth gear, 10.8 sec. In the ranges tested, the *MG's* acceleration was not nearly as good as that of the *Jaguar*, *Austin-Healey*, or the more powerful American cars. It was far behind the *Triumph TR-2* in the 0-60 test, but not greatly different from the *Triumph* in 20-50 and 40-60 m.p.h. tests.

MG "TF" 1500 SPECIFICATIONS

Engine

4 cylinders in line with overhead valves operated by push-rods
Bore, 2.835 in.; stroke, 3.543 in.
Disp.: 89.5 cu. in. (1466 cc.)
Brake hp. (rated): 65 at 5400 rpm.
Compr. ratio: 8.3 to 1
Cylinder head: cast iron
Crankcase oil capacity: 6-1/4 qt.
Oil filter: full-flow
Cooling system: 6 qt.

Chassis, etc.

Wheelbase: 94 in.
Over-all length: 147 in.
Width: 60 in.
Height, maximum: 52-1/2 in.
Axle ratio: 4.875 to 1; 4 speeds forward
Tires: 5.50 x 15 (adequate)
Brake area: 106 sq. in.; 47.5 sq. in. per 1000 lb. of car weight with 2 passengers (slightly higher than the average American car)
Minimum clearance: 6 in.
Turning diameter: 31 ft.
Steering turns, full left to right: 2-3/4

Other details

Battery: 12-volt 51-amp.-hr. (10-hr. rating)
Gasoline tank: 14-1/2 gal.
Windshield wipers: electric
Shipping weight: 1932 lb.
Curb weight: 2040 lb., 49% on front, desirable (most American cars have well over 50% of the weight on the front wheels)

OBSERVATIONS AND CONCLUSIONS

The *MG's* ride was fairly stiff, as with the other sports cars tested. (A sports car is designed primarily for good handling and road handling qualities and without an attempt to get the "soft ride" which characterizes most popular American cars.) The steering was fast and sure. Cornering ability was good. The brakes were adequate and functioned well in the tests. Engine noise was high at speeds above 50 m.p.h. The brake and clutch pedals were small and close together and required some practice to operate quickly and surely. The space for the driver's feet was exceedingly limited and the absence of any place to put the left foot—except on the clutch pedal itself—was particularly trying, could even be a source of danger in an emergency, since the constant fixed position could imply serious fatigue or muscle stiffness. Gear shifting could be done very rapidly and smoothly. Vision was good all around with the top down, but vision to the rear was not good with the top up. The baggage space was very small, with hardly room for more than a brief case and perhaps one or two small overnight bags.

MG "TF" 1500 Performance

Lb. car weight per mfr.'s rated hp.	31.4
Rated hp. per cu. in. displacement	.73
Over-all ratio in top gear	4.875
Engine rpm. at 60 m.p.h. in top gear	3970
Piston travel in 1 mile in top gear (ft.)	2345
M.p.h. for maximum hp., top gear	82
Acceleration time in seconds:	
0-60	20.0
20-50 (in third gear)	10.3
40-60 (in third gear)	9.2
M.p.g. at 50 m.p.h.	29.5

Off the Editor's Chest

(Continued from page 2)

The fundamental elements of shock and mechanical hazards are well enough understood by the manufacturers' technical men that the consumer could be protected a great deal better than he now is. Much more could be done to make appliances safe by procedures which in some cases would involve only modest additional expenditures and in others would require little more than greater care in design and layout.

Even persons with professional or scientific training often have false ideas regarding shock hazard. Two such persons, one a professional engineer, and one a teacher of chemistry, have written to Consumers' Research to criticize our emphasis on the importance of safety against shock hazard in electrical appliances, asserting that we should have known that 110 volts is not capable of killing anyone. A great many technically trained persons are not aware of the very large literature on deaths caused by contact with 110 volts and far lower voltages, and there are many electrical engineers who will not realize that there are reports of deaths caused under extreme conditions by alternating-current

voltages as low as 12 to 15. Again, those who are careless or casual about shock hazard do not appreciate the fact that there are enormous differences in human susceptibility; that a young child or person with a certain heart ailment, for instance, or a person with a cut or broken skin or one sweating profusely, might be killed under conditions that would give only a mild and harmless jolt to an adult person in robust health, or one with dry hands and feet, standing on a dry wood floor.

It was with such considerations in mind that Consumers' Research rated as quite unsafe a coffee maker of a well-known make which showed 7 milliamperes leakage current (current leaking through insulation) on one sample at normal humidity, and 10 milliamperes leakage current on another after exposure to 85 percent relative humidity for 24 hours. (One of the two also failed a 900-volt electrical breakdown test.) We believe that a leakage test with suitable milliammeters or shunted neon bulbs at not less than three or four times working voltage should be applied to every appliance produced, before it leaves the factory.

CR's recommendations that tests be made for electrical safety, including a measurement of leakage current, and proof-voltage test under normal humidity and under high-humidity conditions are based on experience in testing many different appliances made by many manufacturers. Many of the *major appliances* that have been tested by Consumers' Research in recent years have shown high leakage current, or have failed in a proof-voltage test. To cite a few examples: of 7 ranges purchased for test, 5 showed high leakage current in the "as-received" condition; of 10 ironers, there were 6 with leakage currents between 0.6 and 4 milliamperes; of 10 heating pads, 2 showed excessive leakage current. Five of 10 electric mixers failed a proof-voltage test after exposure to high humidity conditions of the sort that might exist for days at a time in some parts of the country.

Although the safety of electrical appliances in use is of primary importance, Consumers' Research does, of course, consider effective and efficient performance to be also of major importance in appliance testing. What consumers want to know is how well will a particular piece of equipment serve their needs; is it efficient or wasteful in the use of electricity in producing hot water, for example; does it do its work in a reasonable period of time; is it easy to operate and simple to take apart and to clean?

Consumers' Research rarely finds a product which when examined critically from the consumer's standpoint could not be greatly improved by a number of changes in basic design or in details, oftentimes changes of a simple and inexpensive nature. We find that new electrical appliances have defects which are of great importance to the consumer, but which were overlooked by the factory engineers who were preoccupied perhaps with difficult and pressing questions of factory operation. For example, a widely distributed vacuum cleaner was found to pick up a surprisingly large amount of rug nap in the cleaning operation and would, therefore, unquestionably cause rapid rug wear. As the manufacturer may often be tempted to increase the dirt-removing efficiency of his cleaner at the expense of rug life, performance specifications for vacuum cleaners are needed that would include provisions to discourage the appliance manufacturer from going so far in the direction of fast cleaning that the housewife would be unduly shortening the life of her rugs.

It should be noted perhaps that many consumers somewhat mistakenly expect an item which they buy to be not merely good but perfect. They apparently believe that an automatic washer, for example, should not only wash clothes clean without tangling, but it should require no exercise of intelligence or care on the part of the homemaker and should never need servicing. As we point out from time to time, even the best and most perfectly engineered automatic appliances have their faults. No one expects an automobile to run for any great length of time without attention, lubrication, and regular servicing. The same care needs to be applied to the household equipment, and the more complex the item, the more essential is such regular care.

One difficulty in establishing good consumer habits in this respect is that the operating instructions which the maker supplies are often hard for the unskilled reader to understand; they need summarizing and simplifying, and they should be available in a form that can be readily consulted. Someone has suggested that the essentials be incorporated in a small metal or plastic panel permanently attached to one of the larger appliances, such as the gas or electric range, washing machine, ironer, etc., to avoid the need of going through a drawer or cubbyhole to find the missing instruction book, which always seems to get mislaid or chewed up by the puppy or by silverfish.

Most engineers recognize the importance of using proper and reasonable methods of test and in making information about them available to all concerned. CR decidedly does not go along with those in the industry and in the publishing field who hold that both the methods of

test and the results of application of those tests should be a secret kept from the consumer and made available, if at all, only to insiders. Many sources of standards and specifications are drawn upon for guidance in CR's testing, including the Underwriters' Laboratories, National Electrical Manufacturers Association, American Institute of Electrical Engineers, National Bureau of Standards, Institute of Radio Engineers, American Society for Testing Materials, and Federal Specifications Board. Only rarely, however, will such specifications be used by Consumers' Research in their entirety. Tests that may be important to manufacturers but are of little significance to consumers are likely to be omitted, and, on the other hand, requirements which seem too lenient and to have been written with the manufacturers' problems specially in mind, are changed or tightened to give proper protection to the consumer's interest.

This is necessary because, when standards are set under manufacturers' auspices, it will very commonly happen that important provisions are made less stringent than they would be if the consumer himself had participated, with the support of scientifically and technically trained people, to express his needs in specific form. On the other hand, there is more than a little ground for suspicion that one or two industries in setting specifications have deliberately made them as intricate, difficult, and costly in application as possible, with a view to discouraging amateurs, or small competitors, from attempting to conduct tests on certain items. For example, as of the first part of 1954, only a very few of the 35 manufacturers of room air conditioners had the instrumentation and facilities available to determine the capacity ratings of their conditioners under the specifications set up by engineers of their industry, because of the extreme elaboration and expensive character of the test equipment.

It is to be hoped that the appliance industry will see fit to give its support on a generous scale to the various movements toward standardization and specifications, particularly in improving the means for eliminating shock hazards and for establishing safe limits of leakage current and scientifically correct methods of test. Expenditure of time and money in this field will come back many times over in increased sales and in better public relations with the millions of American housewives relieved by the electrical industry of much of the burden of unnecessary time-wasting tasks and drudgery in the home. Electrical manufacturers are in a position to do a superior job in this respect, for their product and methods of manufacture are based solidly upon the physical sciences and the availability of a great diversity of ingenious measuring instruments. Such an industry is in a particularly good position to establish effective standards of safety and performance.

Informed consumers fully recognize the importance of the testing which large manufacturers and a very few large retailers carry on. We know that those tests make an important, indeed indispensable, contribution to the general improvement of products subjected to those test programs. Our mass-produced appliances have made American consumers the envy of people everywhere, for the ingenuity and resourcefulness of American manufacturers are not equalled in any country of the world.

[This editorial is in the main an abstract of a paper on "Appliance Testing" presented by F. J. Schlink, President and Technical Director of Consumers' Research, before a technical conference on electrical appliances held under the auspices of the American Institute of Electrical Engineers, at Chicago, Illinois, on May 17, 18, and 19, 1954.]

A "Wrought Iron" TV Table

IRON and foam rubber are now popular in the furniture trade and are tending to displace some furniture described as "borax"—an essentially low-grade product. The do-it-yourself craze has also found expression in black "wrought iron" legs and frames of various types ready to be made into your own occasional table by simply adding a top of some kind.

One such black-finished open-top iron stand purchased by CR at $5.98 was advertised as regularly priced at $9.98 by a New York area department store. The top of the table was adjustable between 17 inches square to about 17 x 20. The hairpin-style legs were welded to the top frame halves. The ends of the rods were finished poorly, and the welds were rough looking and rough to the touch; the finish was uneven, and poorly applied. The frame appeared to be sturdy enough to hold a 21-inch table-model TV set although it is doubtful if the table would be stout enough to stand much moving around with the set in place.

It should be noted that the device was not made of black wrought iron but was an ordinary carbon steel, painted black. It would not be advisable to buy it at the advertised "regular price" of $9.98 if it were offered at that figure for it was not considered good enough to justify a price above that actually paid.

Air Pistols

FEW BOYS reach the age of six without having owned at least a half dozen toy cap pistols. Interest in pistols no doubt stems from stories and movies about the "wild west." At a somewhat later period, all the old inner tubes and rubber bands in the neighborhood disappear and are converted into ammunition for "rubber guns." Actually most of these "guns" are really pistols, in that they are usually held and fired in one hand. The next step of the youngster, if he continues his interest in marksmanship, is probably to an air pistol. This is a step of importance, since real risks can be involved in the use of any air pistol, and at this stage there is need for supervision by a person experienced in handling of small arms.

A test recently completed by CR on four air pistols indicates that even the least powerful of these could involve danger in use. On the other hand, the air pistol provides a good opportunity for teaching marksmanship and the safe handling of weapons to youngsters of a reasonable degree of maturity. As the habits acquired with the air pistol will be reflected in the future handling of .22 rifles, and of pistols and shotguns, the parent, uncle, or older brother will do well to make sure the young shooter has plenty of supervision and instruction. Prospective owners of any kind of firearm or air pistol would benefit by becoming a member of the National Rifle Association, 1600 Rhode Island Ave., N.W., Washington 6, D.C. Members receive a very interesting and informative magazine every month and also benefit from the many programs designed by the N.R.A. to instruct shooters in proper handling and accurate shooting of small arms.

The four pistols tested for Consumers' Research were *Benjamin* .22 caliber, *Crosman* .22 caliber, *Marksman* .177 caliber, *Heym* .177 caliber. All the pistols used pellets for ammunition; the *Marksman* provided for shooting BB shot and darts, and for this reason the barrel had no rifling. For shooting pellets, a pistol with a rifled barrel will give the best accuracy due to the good seal between the pellet and rifling and the spin imparted to the pellet. The barrels of the *Benjamin*, *Crosman*, and *Heym* were rifled.

The *Benjamin* and *Crosman* were the "pump up" type; a lever under the barrel is worked back and forth a few times to compress air; the pressure is released behind the pellet when the trigger is pulled to fire the arm. The *Marksman* and the *Heym* can be pumped only once for each shot. Only the *Benjamin* and *Crosman* had adjustable sights, which are a desirable feature on such a pistol, and only these two had the very necessary safety to prevent the guns from being fired inadvertently after they were cocked. These two likewise had the best trigger pulls of the group, and *Crosman* was the better of the two in that respect.

The *Marksman* is pumped up by pulling back and pushing forward a sliding section at the

rear of the pistol. Attention should be called to the fact that if the hinged barrel section of the *Marksman* is not snapped back up into its shooting position after loading, and the gun is fired with a BB in the chamber, the BB will fly out and strike the underside of the barrel and glance off in some unpredictable direction. The *Heym* is pumped up by pushing the entire barrel back into the body of the pistol. Of the four pistols tested, the *Benjamin* and *Marksman* were the easiest to load; details or parts of the others tended to pinch or cut the fingers if much shooting was done.

For a shooting test, the pistols were fired at an N.R.A. approved "Official 20 yd. Timed and Rapid Fire Pistol Target" at a range of 10 yards, using a rest while handholding the pistol. The *Benjamin* and *Crosman* had satisfactory accuracy; the *Marksman* fair; and with the *Heym* it was difficult to get even 5 out of 10 shots to hit the target sheet (10½ x 12 inches). This poor accuracy was no doubt largely due to the fact that the entire barrel jumps forward and jars the hand, before the pellet leaves the barrel, when the trigger is pulled.

To get some idea of the relative striking and carrying power of the several pistols, they were fired at 10 yards into a group of single thickness sheets (.010 inch thick) of 9 x 11½ inch manila filing folders held in frames so as to be about 1½ inches apart. The *Benjamin* proved to be the most powerful, with the pellets penetrating 10 sheets with the pump operated five times. The *Heym* would not shoot through even one sheet.

All pistols have a warranty against defective parts except the *Heym*. If repairs are necessary, it is best to have the dealer mail the pistol back to the factory; postal regulations prohibit the mailing of any pistol by an individual. However, pistols can be shipped by express by an individual, at a much higher cost.

Pistol laws vary from one state to another, and air pistols are even illegal in some states. Any prospective purchaser should check carefully on this point before ordering.

A. Recommended

Benjamin Franklin, Model 132, .22 Caliber (Benjamin Air Rifle Co., 1525 S. 8 St., St. Louis 4) $20, including 250 pellets. Weight, 1 lb. 11 oz. Trigger pull, 5 lb. Group size (diameter of circle enclosing the shots at 10 yd.), 2 in. (9 shots, 5 pump motions each). Penetrated 10 sheets of manila folder stock at 10 yd. when pumped up with 5 pump strokes. Has good safety, and rear sight is adjustable for both windage and elevation. Easy to load and pump. Well made pistol with blued finish. Wooden grips on handle and pumping lever. Pistol has a good "feel" in the hand. 30-day warranty, and free service period.

Crosman, Model 130, .22 Caliber (Crosman Arms Co., Inc., Fairport, New York) $9.95; 250 pellets, 98c extra. Weight, 1 lb. 9 oz. Trigger pull, 4 lb., best trigger pull in group, short and "crisp." Group size, 2 in. (9 shots, 5 pump motions each). Penetrated 8 sheets of manila folder stock at 10 yd. with 5 pump motions. Has good safety, and rear sight is adjustable for windage. Rather hard to load. Easy to pump. Well made, but exterior (blued, crackle, plain aluminum, and wood grips on handle and pumping lever) is not as nicely finished as on the *Benjamin*. Has a good "feel." 90-day guarantee.

B. Intermediate

Marksman, .177 Caliber (Morton H. Harris, Inc., P.O. Box 13396, West Los Angeles 25, Calif.) $5.95, including 30 pellets, 50 BB's, 2 darts, and 2 small targets. Weight, 1 lb. 8 oz. Trigger pull, 7¼ lb. Group size for 7 shots: with pellets, 3.6 in.; with BB's, 5.9 in.; with darts, 8.2 in. Penetrated 2 (nearly 3) sheets with pellets, 3 with BB's. No safety. Poor sights; fixed. Easy to load, but user should exercise care in loading to make sure barrel is latched (see text). Easy to pump. Fairly well made; exterior painted black. Has a good "feel." 30-day warranty.

C. Not Recommended

Heym, 4.5 mm. (.177) Caliber (Cadmus Industries, 5864 Hollywood Blvd., Hollywood 28) $4.95, including 100 pellets. Weight, 10 oz. Trigger pull, 7½ lb. Group size not determined; 5 out of 10 shots missed paper target (10½ x 12 in.) at 10 yd. Penetrated less than 1 sheet. No safety. Fair sights; fixed. Hard to load. Easy to pump. Poorly made; exterior painted black with simulated horn grips. Did not have the feel of a good hand gun. Entire barrel jumps forward approximately 1⅝ in. when pistol is fired, which made accurate shooting impossible. No warranty came with the arm, or was mentioned in the advertising.

Correction to Consumers' Research Monthly Bulletin

Medium-Fidelity Phonographs
Page 25
Nov. '54 Bulletin

The cartridge used in the *Magnavox Magnasonic* was not a variable reluctance type as had been indicated. It was a special crystal type manufactured by Magnavox, called the *Pianissimo*. This crystal cartridge had adequate voltage output and required very little compensation to correct its response to the normal recording-characteristic curve.

"All-Wave" Radio Receivers

WHILE the existence of many short-wave radio broadcasting stations is unknown perhaps to the average reader, there are a good many who write to CR requesting information on receivers suitable for use on the short waves, so-called all-wave radios. Such a radio can supply many hours of interesting listening, if you are a person who finds it exciting to listen to broadcasts from distant places on the globe. Many stations operate in the portion of the frequency spectrum situated between the normal broadcast stations and the very high frequency television stations. Some of these are foreign broadcasters of music and news; others are radio amateurs, and airplane pilots. In addition, one can receive police calls, and the exceedingly accurate time signals sent out from the National Bureau of Standards' station WWV in Washington, D.C.

Quality of reception is not of the best on these short-wave bands, although there are times, particularly during night hours, and in certain regions, when reception may be better than on the normal broadcast band.

In choosing an all-wave receiver, you will need to become familiar with several new terms that are not generally of major importance when choosing a regular AM receiver. As a rule, the receiver will contain one and sometimes two radio-frequency stages. Practically, a tuned r.f. stage is necessary if the set is to be sufficiently sensitive to pick up far-distant stations; this feature also tends to reduce the number of undesirable squeaks and whistles created by stations other than the one being received. Such whistles are likely to be heard to an annoying extent at times on your regular broadcast receiver.

Selectivity or the ability to discriminate between two adjacent stations should be adequate. Since good musical quality is possible only if selectivity is *poor*, relatively poor audio quality is to be expected with an all-wave receiver, especially one designed for use by radio amateurs ("hams")—see listing of the *National NC-98*. On many receivers the selectivity may be varied as desired. This is helpful for eliminating interference caused by a station very close on the dial to the one being received; it also indirectly provides a means of changing the frequency range of the audio response of the receiver. For normal reception on short waves with reasonable fidelity during usual broadcasts, there would be no need to have means for varying the selectivity. There are times, however, when interference is so bad from adjacent stations and from atmospheric noises (static) that a means for decreasing the bandwidth is desirable, particularly if you wish to listen to speech broadcasts only. Increasing the selectivity tends to weaken the interfering noises as compared with the sound one wishes to hear, and thus makes the speech more intelligible, even though deficient in fidelity.

A third term encountered with many all-wave receivers is "band-spread." The usual AM receiver will tune between 535 and 1605 kilocycles, or through 107 channels. An all-wave receiver covers not only the AM band but usually all important bands up to 40,000 kc. (40 mc.)—an additional 3840 channels on some brands. Obviously, there is crowding of stations in some areas on the tuning dial even though from 4 to 6 separate frequency bands are utilized. For this reason, manufacturers have designed many all-wave and communications-type receivers so that a certain portion of a band can be selected and "spread" over a second tuning dial, thus enabling one to separate on the dial those stations which would normally be too close together to allow a particular one to be tuned in properly. The action is similar to that obtained through use of a vernier dial present on many old radio receivers. The *National NC-98*, for example, which provides complete AM coverage from 540 kc. to 40 mc., may be purchased with calibrated band-spread facilities for the five bands 3.5-4, 6.9-7.3, 14-14.35, 20.4-21.5, and 26.9 to 30 mc., used by radio amateurs; or 5.95-6.2, 9.0-10, 10.5-12, 15.1-15.5, and 17.4-18 mc. which are used by short-wave broadcast stations.

An all-wave receiver is generally designed to give maximum sensitivity and selectivity. It must be sensitive if stations are to be received from all over the world. Some, such as the *National NC-98*, do have a device for varying the sensitivity which gives another means for reducing the interference sometimes noticeable between two stations operating on the same frequency.

When being tuned, a receiver of the superheterodyne type (which is the standard circuit design nowadays) selects not only the desired station but another, if on the air, which bears a certain frequency relationship to the desired station. It is also possible to hear two signals—one wanted, the other unwanted, or "spurious"—which originate within the receiver itself. The undesired signals are called "images" and in a properly designed receiver, their strength will be reduced to a point where they are not annoying. In the listings, "image rejection" refers to the inbuilt capability of a receiver to amplify the signal desired, while at the same time maintaining the *undesired* signals at a low and preferably unnoticeable level.

A. Recommended

Hallicrafter, Model S-40B (The Hallicrafters Co., Chicago 24) $129.95.

This receiver should perform very satisfactorily for general all-wave reception.

Cabinet was solidly constructed of metal. 7 tubes used plus a rectifier. R.f. amplifier stage. All controls on front panel, including band-spread tuning (not calibrated), volume, tone, and sensitivity. 4 main tuning bands: (1) 540 to 1680 kc. (standard broadcast); (2) 1.68 to 5.4 mc.; (3) 5.3 to 15.5 mc.; and (4) 15.5 to 44 mc. Accuracy of dial calibration, fair. Sensitivity, good. Selectivity adequate, but too high to give good fidelity on musical programs (see text). Stability, fairly good; some drift away from station during initial 10 min. of operation. Image rejection, good (see text). Power output through 6-in. built-in speaker, good. Over-all audio response (electrical), 160 to 3800 c.p.s. (6 db. down), satisfactory. ¶CR understands that the *S-40B* was recently superseded by *Model S-85* at $119.95. The *S-85* appears similar except that the band-spread is calibrated for the amateur bands.

Zenith Super Deluxe Trans-Oceanic, Model L 600 (Zenith Radio Corp., 6001 W. Dickens Ave., Chicago 39) $139.95.

This portable receiver should give excellent service as a general all-wave broadcast receiver. The calibrated band-spreads were very effective and convenient for tuning short-wave broadcast stations.

A portable receiver for ac-dc-battery operation. Cabinet constructed of wood and plastic finished with leather. 5 tubes plus selenium rectifier. R.f. amplifier. Principal controls on front panel, including band-spread, volume, and tone controls. Used push-button selection for 7 broadcast bands: (1) 550 kc. to 1.6 mc.; (2) 2 to 4 mc.; (3) 4 to 8 mc.; (4) 9.3 to 9.9 mc.; (5) 11.4 to 12.2 mc.; (6) 14.8 to 15.6 mc.; (7) 17.4 to 18.2 mc. Coverage adequate for short-wave broadcasts, but some amateur and other services not covered. Accuracy of dial calibration, good. Sensitivity, good. Selectivity, adequate, but see listing of *Hallicrafter* and text, regarding limitations. Stability, good; no noticeable drift from station during initial 30-min. period. Image rejection, excellent. Power output through 5½-in. speaker, good for a portable receiver. Over-all audio response (electrical), 75 to 4000 c.p.s. (6 db. down), good.

B. Intermediate

RCA Victor, Model 3BX671 (Radio Corp. of America, RCA Victor Div., Camden, N.J.) $144.95.

A fairly good receiver in most respects.

A portable receiver for ac-dc-battery operation. Cabinet constructed of metal and wood with simulated leather covering. 5 tubes plus a selenium rectifier. R.f. amplifier. Principal controls on front panel, including volume, bass, treble, tuning, and band selector. 7 bands covered: 540 to 1600 kc.; 2 to 4 mc.; 4 to 8 mc.; 9.45 to 9.85 mc.; 11.55 to 12.05 mc.; 14.90 to 15.55 mc.; 17.50 to 18.20 mc. Accuracy of dial calibration, good. Coverage adequate for short-wave broadcasts, but some amateur bands and other services would not be received. Sensitivity, good. Selectivity, adequate. Stability, good. Image rejection, poor. Power output through 5-in. speaker, average for a portable receiver. Over-all audio response (electrical), 80 to 5000 c.p.s., very good, and reception was clean and clear. Some backlash in tuning arrangement; this is undesirable, particularly when tuning short-wave stations. With improved image rejection and elimination of backlash in tuning, would warrant an *A-Recommended* rating.

* * *

National, Model NC-98 (National Co., Inc., Malden, Mass.) $149.95, plus $11 for needed separate 6-in. speaker in matching cabinet. Designed for amateur ("ham") use, this receiver was not considered suitable for use as an all-wave receiver. *National Model NC-98 SW* appears similar in circuit construction, but has band-spread tuning covering 5 short-wave listening bands. Well-constructed metal cabinet. 8 tubes plus rectifier. R.f. amplifier. Principal controls on front panel, including volume, tone, and band selector. 4 bands covered: 540 to 1600 kc., 1.6 to 4.7 mc., 4.7 to 14 mc., and 14 to 40 mc.; adequate for all types of broadcasts and services. Calibrated band-spread for amateur bands. (*Model NC-98 SW* has band-spread tuning on 5 short-wave listening bands.) Sensitivity, good. Selectivity, adequate. Stability, only fair. (Receiver operation did not stabilize satisfactorily in first hour of use.) Image rejection, fair; not as good in this respect as either *Hallicrafter* or *Zenith*. Power output, good. Over-all audio response (electrical, 6 db. down), 85 to 1800 cycles; relatively unsatisfactory for short-wave listening, although would serve for amateur voice transmissions. Response of audio section only, through record-player input jack on rear of chassis (electrical, 6 db. down), 120 to 2500 c.p.s. (This low range of audio response would be inadequate for playing of records.)

Ratings of Motion Pictures

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines — some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Cue, Daily News (N. Y.), *The Exhibitor, The Farm Journal, Films in Review, Harrison's Reports, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D. A. R. Preview Committee, Reviews and Ratings* by the Protestant Motion Picture Council, *The Tablet, Time, Variety* (weekly).

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
sci—science fiction
soc—social problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	7	10	**About Mrs. Leslie**	*dr A*
—	3	11	**Adventures of Hajji Baba, The**	*adv-c A*
—	7	6	**Africa Adventure**	*trav-c AYC*
3	7	2	**Aida (Italian)**	*mus-dr-c AY*
—	1	2	**An Inspector Calls (British)**	*mys-mel A*
—	3	—	**Angelika (German)**	*dr A*
1	3	—	**Animal Farm**	*car-c AY*
2	9	2	**Apache**	*dr-c A*
—	7	2	**Athena**	*mus-com-c AY*
—	1	3	**Atomic Kid, The**	*com A*
—	1	3	**Bamboo Prison**	*war-dr A*
4	5	9	**Barefoot Contessa, The**	*dr-c A*
3	13	2	**Beau Brummell**	*hist-dr-c A*
—	7	7	**Bengal Brigade**	*mel-c AY*
—	7	11	**Betrayed**	*war-mel-c A*
—	—	3	**Big Chase, The**	*cri-mel A*
—	5	7	**Black Dakotas, The**	*hist-mel-c AY*
—	8	2	**Black Horse Canyon**	*wes-c AY*
—	7	5	**Black Knight, The (British)**	*adv-c AYC*
2	7	4	**Black Shield of Falworth, The**	*adv-c AYC*
—	1	3	**Black 13 (British)**	*cri-mel A*
—	11	4	**Black Widow**	*mys-mel A*
—	5	2	**Bob Mathias Story**	*biog AYC*
—	8	1	**Bounty Hunter, The**	*wes-c A*
—	1	3	**Bowery Boys Meet the Monsters, The**	*com AYC*
—	1	3	**Bowery to Bagdad**	*com A*
—	10	2	**Bread, Love and Dreams (Italian)**	*com A*
2	8	8	**Brigadoon**	*mus-com-c AYC*
6	9	2	**Broken Lance**	*wes-c AY*
—	3	10	**Bullet is Waiting, A**	*cri-mel-c A*
11	6	2	**Caine Mutiny, The**	*war-dr-c AY*
—	2	1	**Calling Scotland Yard (British)**	*cri-mel A*
—	1	4	**Cannibal Attack**	*mel-c AYC*
—	3	5	**Captain Kidd and the Slave Girl**	*adv-c A*
6	6	5	**Carmen Jones**	*mus-mel-c A*
—	2	2	**Cattle Queen of Montana**	*wes-c AYC*
—	6	3	**Challenge the Wild**	*doc-c AYC*
2	2	—	**Cinerama Holiday**	*trav-c AYC*
—	1	2	**City Stands Trial, A (Italian)**	*cri-mel A*
1	2	1	**City Story**	*soc-dr AYC*
—	2	3	**Companions of the Night (French)**	*soc-dr A*
1	3	—	**Country Girl, The**	*dr A*
—	6	5	**Crest of the Wave (British)**	*war-dr AYC*
—	1	8	**Crossed Swords**	*adv-c A*
—	2	1	**Cry Vengeance**	*cri-mel A*
—	6	2	**Daughters of Destiny (French)**	*dr A*
—	7	7	**Dawn at Socorro**	*wes-c A*
—	3	—	**Day of Triumph**	*dr-c A*
2	3	2	**Deep in My Heart**	*mus-biog-c AY*
5	9	3	**Demetrius and the Gladiators**	*dr-c A*
3	3	6	**Desirée**	*hist-dr-c A*
—	5	1	**Desires (German)**	*soc-dr A*
—	6	—	**Desperado, The**	*wes A*
—	2	3	**Desperate Decision (French)**	*dr A*
1	8	6	**Detective, The (British)**	*mys-mel A*
—	4	9	**Diamond Wizard, The (British)**	*cri-mel AYC*
—	9	2	**Down Three Dark Streets**	*cri-mel AY*
—	14	5	**Dragnet**	*cri-mel-c AYC*
—	—	8	**Dreams of Love (French)**	*mus-biog A*
—	5	5	**Drum Beat**	*mel-c AY*
—	6	3	**Drums Across the River**	*wes-c A*
—	5	7	**Duel in the Jungle**	*mel-c A*
—	5	6	**Earrings of Madame De, The (French)**	*dr A*
—	5	5	**Edge of Divorce (British)**	*soc-dr A*
3	8	6	**Egyptian, The**	*dr-c A*
—	1	3	**Fast and the Furious, The**	*mel A*
—	2	1	**Fighting Pimpernel, The (British)**	*mel-c AYC*
—	2	9	**Fire Over Africa**	*mys-mel-c AY*
—	2	3	**Flamenco (Spanish)**	*doc-c AYC*
—	6	7	**Four Guns to the Border**	*wes-c A*
—	—	3	**Four Ways Out (Italian)**	*cri-mel A*
1	11	1	**Francis Joins the Wacs**	*com AYC*
—	6	2	**French Touch, The (French)**	*com A*
—	6	6	**Gambler from Natchez, The**	*mel-c A*
—	1	3	**Garden of Eden**	*dr-c A*
3	9	4	**Garden of Evil**	*dr-c A*

A	B	C		
—	—	4	**Girls Marked Danger (Italian)**	*dr A*
—	6	8	**Gog**	*sci-c A*
—	7	5	**Golden Mistress, The**	*mel-c A*
—	1	3	**Half a Century of Songs (Italian)**	*mus-dr A*
—	2	1	**Half Way to Hell**	*war-doc A*
2	11	4	**Hansel and Gretel**	*mus-fan-c AYC*
—	2	3	**Heart of the Matter, The (British)**	*dr-c A*
—	1	2	**Heat Wave (British)**	*cri-mel A*
—	5	2	**Hello Elephant (Italian)**	*com A*
—	7	7	**Her Twelve Men**	*com-c AYC*
3	12	3	**High and Dry (British)**	*com AYC*
8	4	4	**High and the Mighty, The**	*dr-c A*
2	14	2	**Hobson's Choice (British)**	*com A*
—	1	11	**Human Desire**	*cri-mel A*
—	10	4	**Human Jungle, The**	*cri-mel A*
—	2	4	**Illicit Interlude (Swedish)**	*dr A*
2	3	—	**Immortal City, The**	*doc-c AYC*
—	3	1	**Jazz Dance**	*doc AY*
—	—	9	**Jesse James' Women**	*mus-wes-c A*
—	2	8	**Jungle Man-Eaters**	*adv-c A*
—	3	8	**Khyber Patrol**	*adv-c AYC*
—	—	3	**Killer Leopard**	*mel AYC*
1	7	8	**King Richard and the Crusaders**	*hist-mel-c A*
1	7	4	**Last Time I Saw Paris, The**	*dr-c A*
—	2	8	**Law vs. Billy the Kid, The**	*wes-c A*
—	1	4	**Lawless Rider, The**	*wes AYC*
5	8	2	**Little Kidnappers, The (British)**	*dr A*
—	2	1	**Littlest Outlaw, The**	*dr-c AY*
—	8	3	**Lovers, Happy Lovers (British)**	*dr A*
3	9	4	**Magnificent Obsession**	*dr-c A*
—	6	8	**Malta Story (British)**	*war-dr AYC*
—	3	1	**Masterson of Kansas**	*wes-c AYC*
—	2	3	**Mexican Bus Ride**	*dr A*
2	10	2	**Mr. Hulot's Holiday (French)**	*com A*
—	6	7	**Naked Alibi**	*cri-mel A*
7	10	2	**On the Waterfront**	*dr A*
—	2	1	**One Summer of Happiness (Swedish)**	*dr A*
—	7	1	**Operation Manhunt**	*mys-mel AYC*
1	3	1	**Othello**	*dr A*
—	4	7	**Outcast, The**	*wes-c A*
—	6	4	**Outlaw Stallion, The**	*wes-c A*
—	3	2	**Outlaw's Daughter, The**	*wes-c A*
—	6	2	**Paris Incident (French)**	*dr A*
—	1	9	**Passion**	*mel-c A*
—	—	3	**Phantom Stallion**	*wes AYC*
1	6	5	**Phffft**	*com A*
—	1	9	**Princess of the Nile**	*adv-c A*
—	4	7	**Private Hell 36**	*mel A*
—	9	6	**Pushover, The**	*cri-mel A*
1	2	—	**Quest for the Lost City**	*doc-c AYC*
—	7	5	**Raid, The**	*war-mel-c AYC*
12	6	—	**Rear Window**	*mys-mel-c A*
—	4	4	**Red Inn, The (French)**	*cri-mel A*
—	5	3	**Return from the Sea**	*war-rom AYC*
—	—	10	**Return to Treasure Island**	*adv-c A*

A	B	C		
—	3	5	**Ricochet Romance**	*com AYC*
—	6	8	**Ring of Fear**	*mel-c A*
—	2	3	**River Beat (British)**	*cri-mel A*
—	7	9	**Rogue Cop**	*cri-mel A*
4	2	—	**Romeo and Juliet (Italian)**	*dr-c AY*
—	4	4	**Roogie's Bump**	*fan AYC*
4	5	—	**Royal Tour of Queen Elizabeth & Philip (British)**	*trav-c AYC*
—	—	3	**Runaway Bus, The (British)**	*com A*
5	12	2	**Sabrina**	*com A*
—	7	5	**Scotch on the Rocks (British)**	*com AYC*
—	3	2	**Security Risk**	*mys-mel A*
6	11	—	**Seven Brides for Seven Brothers**	*mus-com-c A*
—	5	6	**Shanghai Story, The**	*mys-mel A*
—	7	8	**Shield for Murder**	*cri-mel A*
—	7	3	**Side Street Story (Italian)**	*dr A*
1	6	—	**Sign of the Pagan**	*hist-dr-c A*
—	1	7	**Sins of Rome (Italian)**	*dr A*
1	6	6	**Sitting Bull**	*hist-mel-c AY*
—	4	2	**Sleeping Tiger, The (British)**	*mel A*
—	—	5	**Snow Creature**	*sci A*
—	7	1	**So This is Paris**	*mus-com-c A*
—	3	—	**Souls in Conflict**	*doc-c AY*
9	3	3	**Star is Born, A**	*mus-dr-c A*
—	3	4	**Steel Cage, The**	*biog AYC*
—	11	7	**Suddenly**	*cri-mel A*
—	7	8	**Susan Slept Here**	*com-c A*
—	4	9	**Tanganyika**	*adv-c AYC*
—	1	2	**Texas Bad Man**	*mel AYC*
—	2	1	**Theodora, Slave Empress (French-Italian)**	*hist-dr-c A*
—	5	4	**They Rode West**	*wes-c AYC*
—	2	8	**This is My Love**	*dr-c A*
2	3	—	**This is Your Army**	*doc-c AYC*
—	6	6	**Three Hours to Kill**	*mel-c A*
1	3	1	**Three Ring Circus**	*com-c AYC*
—	—	3	**Three Stops to Murder (British)**	*mys-mel A*
—	—	3	**Thunder Pass**	*wes AYC*
—	2	6	**Tobor, the Great**	*sci-mel AY*
—	2	1	**Tonight's the Night (British)**	*com-c A*
—	3	6	**Track of the Cat**	*dr-c A*
—	2	1	**Trouble in the Glen (British)**	*com-c AYC*
—	3	2	**Twist of Fate**	*mys-mel A*
—	1	3	**Two Guns and a Badge**	*wes A*
2	8	3	**Ugetsu (Japanese)**	*dr A*
—	3	—	**Unchained**	*soc-dr A*
2	10	1	**Unconquered**	*biog AYC*
—	1	8	**Unholy Four, The (British)**	*mys-mel A*
2	6	9	**Valley of the Kings**	*mel-c A*
10	8	—	**Vanishing Prairie, The**	*doc-c AYC*
—	1	2	**Varietease**	*com A*
3	10	1	**Victory at Sea**	*war-doc A*
—	—	3	**Voice of Silence, The (Italian)**	*dr A*
—	2	5	**Weak and the Wicked, The (British)**	*soc-dr A*
—	4	—	**Welcome the Queen**	*doc-c AYC*
—	3	1	**West of Zanzibar (British)**	*mel-c AYC*
4	5	5	**White Christmas**	*mus-com-c AYC*
—	1	6	**White Fire (British)**	*mel A*
—	2	3	**White Orchid, The**	*adv-c A*
—	—	4	**Woman's Angle, The (British)**	*dr A*
2	8	5	**Woman's World**	*dr-c A*
—	1	2	**World Dances, The**	*mus-doc-c AYC*
—	1	4	**Yellow Mountain, The**	*wes-c A*
—	3	1	**You Know What Sailors Are (British)**	*com-c A*
—	1	2	**Yukon Vengeance**	*mel AYC*

The Consumers' Observation Post

(*Continued from page 4*)

hospital where he succumbed to fatal poisoning at the end of three days. Examination indicated that boric acid was present in the liver tissue. The physician reporting the case suggested that a label warning of toxicity ought to be placed on all preparations containing boric acid.

* * *

HOUSEHOLD APPLIANCES SOLD AT A DISCOUNT are no longer to be found merely in cut-rate outlets or discount houses. Consumers have indicated that they have a nose for bargains and department stores throughout the country from Bridgeport, Connecticut, and New York City to Washington, D.C., St. Louis, Dallas, and San Francisco are now reported as offering "name brand goods" at reduced prices. Department stores are said to feel that they must cut prices to keep their customers, although some are doing it quietly and without extensive advertising in order not to antagonize manufacturers who are trying, with varying degrees of energy and effectiveness, to uphold the "fair trade laws." Since discount houses are often on a cash-and-carry basis with little or no service that department stores render, some officials feel that by their meeting the lower prices the discount houses will be reduced to carrying off-brand or little-known merchandise. There are other retailers, however, who see the discount houses as a continuing competitive factor which will force department stores to bring their costs down to a lower level. The consumer who plans to buy appliances can look forward to getting bargains in the appliance field so long as the competitive battle continues.

* * *

THE HIGH COST OF COFFEE in the United States is a source of irritation to the homemaker whose family is fond of this particular beverage. To mitigate her displeasure, one trade journal suggests that dealers in coffee post the prices that prevail in Iron Curtain countries; for example, a pound of coffee is reported to be priced at $4.78 in Russia, $6.47 in Rumania, $13.54 in Hungary, $18.85 in Czechoslovakia, and $45.45 in Poland.

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NEW OR NEWLY TESTED:

Add-A-Pair Shelf Hangers (Ambler Distributors, Ambler, Pa.) Three pairs, $2.50, postpaid. These hangers are made of 1/4-inch steel rods with a rust-resistant coating; they are to be attached to overhead beams, and are designed to hold a shelf of any reasonable length up to 12 inches wide. Additions may be made by simply hooking on another pair of hangers to the bottom of the first ones, without disturbing existing shelves. The top hangers are hung from lag screws and were found to be very easily installed. When three pairs are linked together, one below the other, a slight sidewise motion is possible, and if the shelves were loaded with glass jars, there might be some possibility of some bottles falling and breaking, although this could be prevented by installing the shelf system in a corner, or by use of a suitable guy wire or two. A shelf supported by two hangers was tested under a load of ten 50-pound weights; this load caused only a slight distortion in the part of the hangers under the shelf. In a damp basement, the hangers showed no sign of rusting over a three-year period. They were considered to be a very useful item and quite convenient in a cellar where the walls are masonry and will not take nails or screws conveniently for the mounting of shelves in the usual way.

* * *

Process 33 Instant Paint Brush Cleaner and Preserver (G. N. Coughlan Co., 29 Spring St., West Orange, N.J.). One quart, 98c. Circular claimed this product to be "a revolutionary product that cleans in a jiffy...." "Adds years of service to brushes and rollers." The liquid was effective in cleaning fresh paint out of a brush easily in accordance with instructions given for use of the product. It was judged, however, to be not much more, if any, effective than kerosene used for the same purpose, and kerosene is, of course, a great deal cheaper. It took something like 48 hours to free the bristles of a paintbrush which had been dipped into paint and allowed to dry over one week end (2-1/2 days), and the paint was not thoroughly removed by Process 33 at the end of that time. (A solution of Tide in hot water was effective for removal of the remaining particles of paint.) Process 33 was judged not to be effective for paint-stiffened brushes, in which the paint has hardened for weeks or months, which call for another type of solvent. It should be noted that the advertising claim "cleans in a jiffy" was in contradiction with instructions on the bottle, which noted that the product did not clean a hardened brush.

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Phonograph Records

BY WALTER F. GRUENINGER

Please Note: The first symbol applies to quality of interpretation, the second to fidelity of recording.

Bizet: *Carmen Suite* & **Gounod:** *Ballet Music* from *Faust*. St. Louis Symphony Orchestra under Golschmann. Capitol P8288. $5.95. Light, operatic suites heard at Pop concerts. While the last nuance isn't squeezed out of the music, the performance is satisfactory. A A

Orchestral Music of Brahms. Philharmonic-Symphony Orchestra of N. Y. under Walter. 8 sides, Columbia Set SL 200. $23.85. The four symphonies, the *Academic Festival* and *Tragic Overtures*, four *Hungarian Dances* and *Variations on a Theme by Haydn* are presented. Bruno Walter's interpretations are those of a romantic less concerned with polished details than the main stream of thought. And there is good reason for interpreting Brahms this way for he, too, was a romantic. Uneven recording, all less brilliant than today's best. AA A

Brahms: *Concerto in D for Violin*. David Oistrakh with the Saxon State Orchestra under Konwitschny. Decca DL 9754. $5.85. Solid, musicianly, dignified performance by one of the world's top violinists. Boomy bass and a balance favoring the violin score against hi-fidelity, but not heavily. A challenge to the recent Milstein-Capitol P 8271 which is very well played, too, and about as well recorded. AA A

Franck: *Symphony in D Minor* and *Le Chasseur Maudit*. Vienna State Opera Orchestra under Rodzinski. Westminster WL 5311. $5.95. Dramatic performance of both works, in keeping with the score. Full-bodied recording. AA AA

Giordano: *Highlights from Andrea Chenier*. Tebaldi, Soler, etc., under Basile. Cetra A 50 169. $5.95. Highlights of Cetra Set 1244. The opera was revived by the Metropolitan Opera in November. Tebaldi is the main attraction and she sings beautifully. A A

Mozart: *Violin Concertos Nos. 3 and 4*. Grumiaux with the Vienna Symphony Orchestra under Paumgartner. Epic LC 3060. $5.95. What wealth lies here! Delicate, charming, witty masterpieces. Grumiaux's playing is clean, sure, robust, occasionally a little rushed and too sensuous. Good recording. A A

Mozart: *Piano Concertos Nos. 24 and 26*. Casadesus with the Columbia Symphony Orchestra under Szell. Columbia ML 4901. $5.95. Masterpieces played with impeccable taste and remarkable facility. AA AA

Offenbach: *Gaité Parisienne* & **Chopin:** *Les Sylphides*. Philadelphia Orchestra under Ormandy. Columbia ML 4895. $5.95. Tuneful ballet music nearly everybody enjoys. More nuance and subtlety in the playing than generally heard. AA A

Piston: *Symphony No. 3*. Eastman Rochester Symphony Orchestra under Hanson. Mercury MG 40010. $5.95. Well balanced combination of rhythm, melody, and harmony firmly based on the Old but breaking through to the New. The Rochester group plays it as though they loved it and it is well recorded. AA A

Rimsky-Korsakov: *Scheherazade*. Philadelphia Orchestra under Ormandy. Columbia ML 4888. $5.95. "Naked orientalism," Saminsky calls this piece. But no one doubts its widespread popularity. And I cannot see how this record can fail to achieve the best seller list, for *Scheherazade* is an "Ormandy special" in which he seems to introduce new subtleties over the years. Recording—rich, wide range, magnificent, and an improvement over the recording of the same piece by the same group on one of the early LP's—Columbia ML 4089. AA AA

Rodgers: *On Your Toes*. Original Broadway Cast, 1954. Decca DL 9015. $5.85. The current revival of this 1936 hit show offers fair singing as Broadway shows go, but the orchestra and direction are tops. Sprightly tunes, clever lyrics. B AA

Schumann: *Piano Concerto*. Novaes with the Pro Musica Symphony under Swarowsky and *Scenes from Childhood*. Novaes (piano). Vox P 8540. $5.95. Lovely lyric playing, seldom encountered. Recording of this romantic masterpiece is well balanced vis-à-vis piano and orchestra, but overstrong in the bass. AA A

Shostakovich: *Symphony No. 10*. Leningrad Philharmonic Orchestra under Mravinsky. Concert Hall Society 1313. $5.95. Shostakovich's latest symphony was world-premiered a year ago under this conductor. Very likely Shostakovich's greatest work, though time alone will tell. It does seem rather long. The performance must be regarded as definitive but the fidelity is only passable . . . . Better fidelity and a good performance are found on Columbia ML 4959, Mitropoulos conducting the N. Y. Philharmonic. AA B

Tchaikovsky: *Capriccio Italien* & **Rimsky-Korsakov:** *Capriccio Espagnol*. London Symphony Orchestra under Scherchen. Westminster W-LAB 7002. $7.50. High fidelity is present in this new premium-priced Laboratory series release, but Scherchen exaggerates the tempi so often in the *Italien* that I derive less pleasure from the disk than from competitive disks. B AA

Verdi: *Requiem*. Shaw Chorale and NBC Symphony Orchestra under Toscanini. 4 sides, RCA Victor LM 6018. $11.90. A recording of the Carnegie Hall performance on January 27, 1951. Fidelity is not as good as it probably would be under studio control and there are a few minor blemishes in the singing. But the enthusiasm of Toscanini inspires the soloists and the orchestra, resulting in a thrilling performance of a Verdi masterpiece . . . . The new Decca DX 118 in which Fricsay conducts this work with a German group is better recorded and well performed, but the blazing fire of Toscanini is missing. Victor preferred. AA B

Dinner in Rio. Fafa Lemos and His Orchestra. RCA Victor LPM 1017. $4.19. The group plays in a swank Rio supper club. The music is soft, danceable, listenable, Latin American with a solo violin. No vocals. Monotonous is the fadeout encountered at the end of too many pieces. A A

Edward Vito Harp Recital. Period SPL 704. $5.95. Skillful performance and realistic recording of seven pieces, four of which were composed for other instruments. A Mozart concerto (arranged by Vito) and a Handel concerto (arranged by Handel) are played with a small supporting group of strings. AA AA

Hilles and Aviva Sing by the Pomegranate Tree (folksingers). Concert Hall Society CHS 1228. $4.67. An arresting disk. Folksingers from Israel recreate the musical expression of Biblical times. Rich basso profundo and sweet soprano whose only accompaniment is the Khallil (shepherd's flute) and the Miriam drum. AA AA

Song Recital by Elizabeth Schwarzkopf (soprano). Angel 35023. $5.95. Beautiful singing of pieces by Bach, Gluck, Mozart, Schumann, Brahms, etc. Some distortion in the sound from Ungefuld, otherwise excellent recording. To those who enjoy *lieder*, this is a must. AA A

Toscanini Conducts Wagner. NBC Symphony Orchestra under Toscanini. 4 sides, RCA Victor LM 6020. $11.90. Orchestral pieces from *Tristan, Gotterdämmerung, Meistersinger, Lohengrin, Parsifal*, etc. Despite a few reservations, superb Wagnerian playing for which Toscanini is justly famous. The *Idyl* and the *Meistersinger Prelude* are less well recorded than the other pieces . . . . The *Meistersinger Prelude* appears, also, in Columbia ML 4918 with three other Wagnerian Overtures. Szell conducts the N. Y. Philharmonic less broadly and dramatically than Toscanini, but very well recorded. AA A

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